

**CONCENTRATION OF LAND CONTROL AND LAND GRABBING IN
COLOMBIA. DYNAMICS OF CONFLICT AND DEVELOPMENT
THE CASE OF *BALDÍOS* IN ALTILLANURA**

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Tiivistelmä/Referat – Abstract			
<p>This master thesis addresses the concentration of land ownership and land use in Colombia. I focus especially on unallocated state lands, which are called <i>Baldíos</i>. The study on the usage of these lands is important for many reasons, one being the lack of critical studies on their grabbing by elites. Officially, <i>Baldíos</i> should be used in land redistribution programs for landless peasants and other rural poor populations. This should take through an administrative process wherein the State issues property titles to landless peasants; however, as the research done for this thesis uncovered, there are serious problems and wrongdoings in this process.</p> <p>Theoretically, the thesis criticizes the overall development model that is seen as explaining the problematic land grabbing of the <i>Baldíos</i> in the studied Colombian Altillanura region. The crippling effects of the 50 years of armed conflict and the increasing demand for agrofuels receive also critical analysis, given their centrality as processes that are intermeshed with the overall, problematic developmental process.</p> <p>The outcomes of this master thesis are derived from fieldwork conducted in Colombia during July, 2017. The research material consists of 1) various interviews with representatives of land administrative offices, 2) a database that I collected on the extension of different types of cash crops, allocation of property rights, distribution of <i>Baldíos</i>, and numbers on forced displacement. This database was systematically analyzed using various methods and statistical software programs. I also produced a cartography that geographically opens up the key relations between the variables. Thereafter, qualitative, quantitative and geographical methods support the findings of this research.</p> <p>The key analytical concepts used are primitive accumulation, accumulation by dispossession and social capital. I explain how the use of these concepts is fruitful for critical understanding a so-called 'modern' dynamics that result however in violent scenarios of land grabbing and sophisticated but predatory practices, such as legal trickery, creation of shell companies and the illegitimate use of public resources. Through these analytical concepts, I relate my findings with important, contemporary global dynamics, such as the promotion of agroindustries in places formerly dominated by family farming. Such projects require considerable investment and use of natural resources. As I show, this may imply the acquisition of land or its control through mechanisms other than ownership.</p> <p>The findings suggest that the processes of expanding cash crops, forced displacement and grabbing <i>Baldíos</i> are interrelated. This holds true especially in the Altillanura region, where I found that: 1. Large investors are prone to take advantage of forced displacement by purchasing the dispossessed lands at low prices and thereby making large profits. 2. Agroindustrial actors have been grabbing former <i>Baldíos</i>; a practice that is completely prohibited. This is made possible by using complex extra-legal mechanisms, such as the creation of various fictional juridical identities to purchase these lands. And finally, that 3. Social influence and status are still valuable assets for accessing lands in Colombia, also illegally.</p> <p>The conclusions explain how these circumstances are due to pervasive armed confrontation and pressures from international markets. These are developmental problems resulting from a model that sees small farmers as an inconvenient and incapable mass of people that uses obsolescent and ineffective methods of agriculture. Currently, agroindustries turn these peasants' social status and possibilities to that of mere salaried workers. This is unfortunate, as I explain, since small-scale agriculture can be profitable, and should be given more priority in the developmental policies allocating state lands.</p>			
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ABBREVIATIONS

ANUC: Asociación Nacional de Usuarios Campesinos. National Association of Peasants

ANT: Agencia Nacional de Tierras. National Agency of Lands.

CCC: Corte Constitucional de Colombia. Constitutional Court of Colombia.

CSJC: Corte Suprema de Justicia de Colombia. Supreme Court of Justice of Colombia.

CNMH: Centro Nacional de Memoria Histórica. National Center of Historical Memory.

CONPES: Consejo Nacional de Política Económica y Social. Economic and Social Policy National Council.

COP: Colombian Pesos.

CRC: Congress of the Republic of Colombia.

CGR: Contraloría General de la República. General Comptroller Office.

DANE: Departamento Administrativo Nacional de Estadística. Statistics National Department.

DNP: Departamento Nacional de Planeación. National Planning Office.

FAO: Food and Agriculture Organization.

FARC: Fuerzas Armadas Revolucionarias de Colombia. Revolutionary Armed Forces of Colombia.

FEDEPALMA: Federación de Cultivadores de Palma. Federation of Oil Palm Cultivators.

ICR: Incentivo a la Capitalización Rural. Incentive to Rural Capitalization.

IGAC: Instituto Geográfico Agustín Codazzi. Agustín Codazzi Geographic Institute.

INCODER: Instituto Colombiano de Desarrollo rural. Colombian Institute for Rural Development

INCORA: Instituto Colombiano de Reforma Agraria. Colombian Institute for the Agrarian Reform

MADR: Ministerio de Agricultura y Desarrollo Rural. Ministry of Rural and Agricultural Development.

PRC: Presidency of the Republic of Colombia.

SNR: Superintendencia de Notariado y Registro. Real State Central Office.

UAEGRTD: Unidad Administrativa Especial para la Gestión de Restitución de Tierras Despojadas. Special Administrative Office for Restitution of Deprived Lands Management.

UARIV: Unidad Administrativa para la Reparación Integral a las Víctimas. Administrative Office for Integral Reparation to Victims.

UPRA: Unidad de Planeación Rural Agropecuaria. Rural Planning Office.

UNECLAC: United Nations Economic Commission for Latin America and the Caribbean.

USAID: United States Agency for International Development.

USD: United States dollars.

VAT: Value Added Tax.

ZIDRES: Zonas de Interés de Desarrollo Rural, Económico y Social. Zones of Interest for Rural, Economic and Social Development.

TABLE OF CONTENTS

ACNOWLEDGMENTS	3
ABBREVIATIONS	4
TABLE OF CONTENTS	6
1. INTRODUCTION	9
1.1. The concept of <i>Baldíos</i>	10
1.2. Statement of purpose	10
1.3. Hypothesis	11
1.4. Research questions	11
1.5. Relevant literature	12
1.6. Aims	13
2. APPROACH AND METHODOLOGY	14
2.1. Approach	14
2.2. Methodology	15
2.2.1. Qualitative methods	15
2.2.2. Quantitative methods	15
2.3. Ethical issues	16
2.3.1. Background	16
2.3.2. Interviewing challenges	16
2.3.3. Bibliography selection	17
2.3.4. Datasets reliability	17
3. THEORETICAL APPROACHES	18
3.1. Land concentration and Land grabbing	18
3.1.1. Concentration of land	18
3.1.2. Land grabbing	18
3.2. Relevance to Development Studies	21
3.2.1. Market and commodification of labor and nature	21
3.2.2. Further exploration of the concept of nature and capitalism	22
3.2.3. Accumulation	22
3.2.3.1 Primitive accumulation	23
3.2.3.2 Accumulation by dispossession	25
3.2.3.3. Privatization of social goods	26
3.2.4. Social Capital	27

3.2.5. Deconstructing the concept of Development	28
3.2.5.1. Development, rurality and hunger.	29
4. CONCENTRATION OF LAND CONTROL IN COLOMBIA	32
4.1. Main aspects of concentration of land control in Colombia	32
4.1.1. Sugarcane production	33
4.1.1.1. Sugarcane transformation	34
4.1.2. Oil palm cultivation	35
4.1.2.1. Agroindustrial processes of oil palm	36
4.1.3. Current situation of biofuels in Colombia	38
4.1.4. Land tenure and biofuels production	39
4.1.5. Forced displacement and dispossession.	41
4.2. Measuring the concentration over land control in Colombia	43
5. THE COLOMBIAN AGRARIAN CONTEXT	46
5.1. The origin of <i>Baldíos</i>	46
5.2. The agrarian reform	48
5.3 Institutional framework	52
5.3.1. The <i>Baldíos</i> regulation	52
5.3.2 Restitution of deprived lands	54
6. ANALYZING THE DATA	56
6.1. Methodology	56
6.1.1. Analyzing the time	56
6.1.1.1 Evolution of forced displacement	56
6.1.1.2. Evolution of sugarcane and oil palm.	57
6.2. Analyzing the space	58
6.2.1. GINI distribution	60
6.2.2. Forced displacement in Colombia	62
6.2.3. Distribution of <i>Baldíos</i> in Colombia	63
6.2.4 Distribution of sugarcane cultivation.	65
6.2.5. Distribution of oil palm cultivations	66
The map depicts the major 35 producer municipalities of oil palm in Colombia.	66
6.3. Multivariate analysis.	68
6.3.1. Component Analysis	68
6.4. Inferential Statistics	70
6.4.1. Association between GINI and sugarcane cultivations	70

6.4.2. Association between forced displacement and oil palm cultivations	71
6.4.3. Association between <i>Baldíos</i> and oil palm cultivations	72
6.5. Connecting the dots	73
7. THE ORINOQUÍA REGION AND ALTILLANURA	75
7.1. The Orinoquía region	75
7.2. The Altillanura subregion	77
7.3. The ZIDRES Regulation	81
7.4. The development model of Altillanura	85
7.4.1. The origins of the model	86
7.4.2. Problems of the model and alternatives	88
7.4.2.1 Alternative models	88
7.4.2.1.1 Rotating crops	88
7.5. Land tenure in Altillanura	92
8. ACCUMULATION OF <i>BALDÍOS</i> IN THE COLOMBIAN ALTILLANURA	94
8.1 Incentive for rural capitalization (ICR)	94
8.2. Accumulation strategies	95
8.2.1. Monica Semillas	95
8.2.2. Cargill	96
8.2.3. Riopaila	96
8.2.4. Luis Carlos Sarmiento Angulo group – Corficolombiana	97
8.2.5. Other relevant cases	97
8.3. Forced displacement and dispossession in Altillanura	97
8.3.1. El Brasil	98
8.3.2. The case of Poligrow	99
8.4. Social influence and accumulation	100
9. CONCLUSIONS	102
9.1. Corollary	107

1. INTRODUCTION

Between the years 2000 and 2009 there was a historically high increase in the concentration of land ownership in Colombia. The national Gini increased from 0.86 to 0.88. During this period, farms with areas larger than 500 hectares, that 20 years ago occupied 32% of useful land, now occupy 62% and are owned by 4% of the population (Salinas, 2012). According to the Colombian State, in 2009, 80.5% of the plots (that belong to 78.3% of population), occupied 10.5% of total national surface, whilst 52.2% of area is owned by 1.1% of population. This is equivalent to 0.9% of properties (Salinas, 2012).

The Colombian agricultural sector uses less than 5 million hectares out of the 21.5 million suitable for agriculture; 60% are permanent crops and 33% are transitional crops. 68% are late yield crops and 23% are forest plantations. Peasant economies participate with a 10%, expressed in terms of transitional crops. In contrast, cattle ranches occupy 39 million hectares, doubling the usable area for such (20 million hectares) (Salinas, 2012).

The National Human Development Report issued by UNDP emphatically concludes that the rural development model built by Colombia is a failure. This is because it does not solve the basic problems of rural society and associated factors relating to production. According to the UNDP, the Colombian model is inequitable, conflictive, and lacks the recognition of the campesino class (Centro Nacional de Memoria Histórica [CNMH], 2013). The report highlights the excessive use of livestock farming and the consequent under-utilization of agriculture; also the high informality around property rights, especially in the countryside; the dispossession and abandonment of land by various means, including violence and the use of malicious contracts; the persistence of land-oriented disputes relative to armed conflict; delays in updating the cadastral system; information deficits regarding land tenure and the consolidation of illegal agrarian structures associated with armed conflict (CNMH, 2013).

The long-standing Colombian armed conflict has caused the displacement of millions of people from the countryside to cities. According to official records, 2.169.8741 persons have been forcibly displaced. This is equivalent to 5% of the total population (Ibáñez and Velásquez, 2008).

Colombian departments or regions with the highest concentration of land control tend to be the most affected by forced displacement and tend to constitute the setting for major projects such as mining, biofuels, agroindustry and agroforestry (Salinas, 2012).

The problem is persistent, given that Colombia's inequality of land concentration is one of the highest in the world. Presently it is not clear what and where are the *Baldíos* in the country. The Colombian state has diverse legal mechanisms to regulate the use of these lands. However many of them are not clearly defined or designated. For example, Act 160 of 1994 states that lands that do not have a colonial title, an adjudication from the State or a valid private title are presumed to be *Baldíos* and are intended to be for poor farmers, regardless of titles and extensions.

Both acts to this day are still in force. In the rule T-488 of 2014, the Colombian Constitutional Court ordered the identification and recovery of all the *Baldíos* throughout the country, remarking that those properties, which do not have prior and registered private rights, are part of the State's patrimony. Nevertheless, the Supreme Court of Justice of Colombia stated that occupied lands are private, regardless of registrations (SCJC, 15001-22-13-000-2015-00413-01, 2016). This is a difficult situation for rural development in Colombia, considering that the main Courts contradict each other, evidencing that there is no institutional agreement and that redistribution of lands appears not to be State policy.

1.1. The concept of *Baldíos*

Baldíos in Colombia are those lands, that are not owned and consequently, belong to the State (Code of Civil Law of 1873). Such lands are intended for use in redistribution programs carried out by the National Agency of Lands. This is undertaken through an administrative agrarian process by which the State issues property titles to campesinos who have low incomes, lacking other rural lands within the national territory (Code of Agrarian Law [Act 160] of 1994; Decree 902 of 2017).

1.2. Statement of purpose

Land is a very important entity since it exists prior to any form of life and is the place where social relationships occur. Human beings are dependent on resources obtained from the land and no life could be possible in its absence.

Concentration of land control is a phenomenon that is occurring in the entire so-called Global South. This problem is rampant in locations where property rights have not been consolidated and where land is especially considered a source of power, status and wealth. Frequent and specific conflicts over land exemplify this notion. These confrontations have been traditionally explained as being the result of local factors, such as tradition, family dynamics, and issues of control over territories. However, recently such conflict has manifested on a more global scale, with the active participation of international actors such as multinationals. These are often focused on the acquisition of lands for cultivating specific crops, thus tending to displace local populations and exacerbating disparities. Studying such phenomena is necessary in order to understand the emerging dynamics. All this helps to explain new concentrations of land.

1.3. Hypothesis

The hypothesis from which I start is as follows:

Traditional and small models are seriously challenged by the progressive concentration of land control in the Colombian Altillanura, with State support, by means of specific acts, rules and concessions, actively promoted by powerful interests in conflictive scenarios.

1.4. Research questions

The main question this thesis will address is: *What is the developmental model behind the concentration of control over Baldíos in the Colombian Altillanura?*

To answer this question, there are additional questions that must also be answered:

1. *What are the global and local dynamics that foster concentration of land control across the world?*
2. *In relation to the issue inequitable land distribution in Colombia, what is the relationship between armed conflict, cash crops and the Baldíos?*
3. *Who are the actors involved in the concentration of control over Baldíos in the Colombian Altillanura?*
4. *What are the strategies used for concentrating the control over Baldíos in the Colombian Altillanura?*

1.5. Relevant literature

The concentration of land control in Colombia has been extensively studied by authors such as Ana María Ibáñez Londoño (2008) and Machado (1999). They concur in citing high land concentration, an issue that will be further analyzed in this study. One must consider the relevance of the land in the dynamics of the armed conflict in Colombia and pervasive land distribution inequality. These studies have focused on the rural sector in Colombia, taking into account the types of land, both public and private.

The Altillanura sub-region has attracted attention due to its relevance in the Colombian context. This area has been acknowledged as an important source for agricultural production, taking into account the large extension of its lands, that has taken place despite the poverty of the soil. Recently, the Food and Agriculture Organization [FAO] published an interesting study of the concentration and foreignization of lands in Colombia, wherein some specific cases were briefly discussed, including the case of Puerto Gaitán (Vega, Moncaleano, Ortiz, Carvajalino, and Rodríguez, 2017). However there is no specific research on the concentration of *Baldíos* in Colombia nor of those specifically in Altillanura. This is clear due to the absence of an inventory of such lands, as has been previously stated by the Colombian Constitutional Court in 2014, as it was analyzing a case that implicated illegal appropriation of land in the Orinoquia region. Given the paucity of specific literature, my research could significantly contribute to a greater understanding of the problem.

1.6. Aims

This research aims to help attain a greater comprehension of the concentration of land control in Colombia, specially over *Baldíos*, which constitute a very important instrument for agrarian reform in a country characterized by high levels of land distribution inequality. I will develop a further analysis of this below. To do this, I will contrast some development models in order to explain land control dynamics in the Colombian Alltitanura; especially in relation to the crippling effects of 50 years of recent armed conflict. I intend to express an holistic view of a very complex situation.

Although there has been prior extensive analysis of inequitable land distribution by social scientists, further work is needed in relation to the Colombian Alltitanura. This subregion is comparable to other parts of the world where land control is affected by the influence of agroindustries. These seemingly local problems require further research since they also have global dimensions.

2. APPROACH AND METHODOLOGY

2.1. Approach

This research is comprised of a case study on the concentration of *Baldíos* control in the Colombian Altillanura.

According to Venesson (2008), a case is an event that, once conceptualized and analyzed may represent a wider class of events. A case study, therefore, involves the exploration of a certain number of facts for the further studying of similar cases and the finding of patterns in larger classes, by means of theoretical explanations. On the basis of prior conceptualizations, a case study must formulate theoretical categories rather than merely gather pieces of data. It should evaluate theories by raising hypotheses and by explaining singular events from relevant theories (Venesson, 2008).

Lund (2014) has stated some characteristics that are present in case studies, namely: 1. *Resonance*, which implies that connections may be present in various cases. For example, research on contemporary land grabbing may have some common patterns with Marxist theories on primitive accumulation. 2. *Generalization*, which entails validating any knowledge extracted from a certain number of events. For example, an investigation of land conflicts may enable the researcher to identify common aspects, such as: actors, authorities, claims and solutions. 3. *Abstraction*, which is pursued through identifying inherent qualities in singular events or in the conceptualizing of phenomena. For example, comparable land disputes could be analyzed using concepts related to property and authority. 4. *Theorizing*, which is the process that consists of moving from the observation of particular cases using concepts, in order to recognize inherent categories present in other cases (Lund, 2014).

Through the use of a case study and the concepts inherent in it, I aim in doing this research, to analyze the current inequitable concentration of *Baldíos* in the Colombian Altillanura. Some of the patterns inherent in the Social Sciences, involving items such as commodification, accumulation and class, are recognizable in disparate though comparable

situations in the ever expanding areas of international agrobusiness that typically include the production of multi-purpose crops.

2.2. Methodology

This research utilizes both qualitative and quantitative methods as follows.

2.2.1. Qualitative methods

During June and July, 2017, some fieldwork was carried out in Colombia, where different relevant actors were interviewed. For safety reasons no names are revealed in this thesis. Nevertheless, I list their affiliations below:

The General Attorney's Office, The Agrarian Office.

The Food and Agriculture Organization [FAO], Pilot project for *Baldíos* recovering.

The Legal department of the National Agency of Lands [ANT].

The Legal Management Office of the National Agency of Lands [ANT] (three interviewees).

The National Real State Office (three interviewees).

The Land and Rural Development Program USAID (formerly a FEDEPALMA representative).

The National Office for the Restitution of Deprived Lands.

The Rural Planning Office of the Ministry of Agriculture and Rural Development.

Additionally, Saturnino Borrás, a widely known expert on the topic was interviewed.

These interviews may not always provide institutional points of view. They will be transversally analyzed.

2.2.2. Quantitative methods

For this research, various datasets were collected, in order to have a better understanding of the salient issues.

1. Open Data from UARIV (2018) on the evolution of forced displacement and its distribution throughout the country from 1985 to 2018.
2. Data from UPRA, on the distribution of potential *Baldíos* in Colombia. This is based on technical analysis that measures the parcels and area of such lands per municipality by 2016, collected straight from the source.
3. Data from UPRA (2016a), on the GINI index distribution in Colombia per municipality by 2016.
4. Open Data from MADR on oil palm (2106a) and sugarcane (2106b) cultivation in Colombia. This data contains the distribution of cultivations in terms of area per municipality and department by 2016.

The data was organized in a new dataset that gathers variables such as Forced Displacement, GINI index, *Baldíos* area, and cash crops areas. Association and spatial analysis are performed using the Statistical softwares STATA and R and the geographic information system ARCGIS.

2.3. Ethical issues

Studying land ownership concentration of *Baldíos* control in the Altillanura subregion has been challenging for many reasons.

2.3.1. Background

Previously, I worked in the Colombian public sector in matters relating to land administration. This prior experience could, inadvertently distort my perspective and analysis. However, I have made a concerted effort to be conscious of possible bias induced by any prior experiences and affiliations.

2.3.2. Interviewing challenges

The Colombian context of this subject matter is fundamental to my thesis. My Colombian heritage and life-experiences have provided me with pertinent insights and have naturally influenced my approach to this research. I am keenly aware – due to inherent social power dynamics - of the need to be cognizant of my personal biases in choosing sources of information. To ensure a variety of perspectives, I have selected my interviewees with significant circumspection.

I recognize the need for awareness of subtle power dynamics that may influence any research to navigate the data collection in the direction of possible confirmation bias. In the course of my fieldwork, I was punctilious about allowing the sources to speak freely, with minimal interruptions and from their authentic personal experiences.

2.3.3. Bibliography selection

Bibliography selection was challenging, given the political contentiousness involved. I was careful to gather data that tended not to support the hypothesis as well as that which tended to uphold it. One needs to be aware that even document analysis might involve some unintended bias. Thus I was careful to incorporate a variety of perspectives into my research.

2.3.4. Datasets reliability

This research uses relevant quantitative data. Much of the information is entirely institutional and is mostly available as open data. Such open data might be prejudiced in its collection, through the influence of special interests; these may include cultivators of certain crops and the various sources of government information. Exhaustive verification of every source is not practical, so I have proceeded on the assumption that official sources have a high degree of credibility

3. THEORETICAL APPROACHES

In this chapter I comment on some theoretical approaches that enhance an understanding of the concentration of land control in fewer hands. These include matters such as the accumulation and commodification of both land and labour; also concepts regarding development and capital and the dynamics of appropriation in various contexts.

3.1. Land concentration and Land grabbing

The concentration of land and land grabbing are associated phenomena. Although the terminology used to describe them can be indistinct and blurred, it is necessary to examine them both in conjunction with each other and as separate items.

3.1.1. Concentration of land

The unequal concentration of land ownership involves complex processes that incorporate those who are acquiring or have the intention of acquiring large extensions of land for exploiting resources, through large-scale projects and agro-industries (Borras, Edelman, Scoones, White and Wolford 2015). Typically, these constitute reconfiguration processes that one can characterize as the transferal of ownership and tenure rights from small landholders to fewer more powerful holders. The latter proceed to exploit these large tracts of countryside. In examining this phenomenon, one needs to look at

- The number of landholders involved,
- The number of farms involved,
- The acreage of the farms in terms of relative size within particular geographic zones and according to their productive capacities (Vega et al. 2017).

3.1.2. Land grabbing

Governments and large companies, requiring land for expanding food production made increasingly large acquisitions of territory in Africa and Asia in the last decade. Weak

institutional frameworks in these regions exacerbated the gravity of these situations (Gómez (Ed.), 2014). Land grabbing entails large scale land acquisitions and the involvement of foreign governments. Moreover, there are many negative impacts from foreign investments upon the food security of the target country (Borras Franco, Gómez, Kay and Spoor, 2012).

Borras et al. (2012) provide another quite detailed definition that specifies land grabbing as “control grabbing”. This includes gaining control of associated resources such as water. This approach bypasses the land-centred component, through allowing the peasants to remain where they are whilst dispossessing them of the fundamental control of the land.

This involves shifting the focus of the analysis to the capital invested, rather than just focusing on an acquired area of land. For example 500 hectares of a mining concession could be as expensive as 100.000 hectares of industrial tree cultivation (Borras et al, 2012).

Of course, the perpetration of land grabbing has a very long history. Some relatively recent examples include European colonialism, which formerly centred on controlling lands in many parts of world during the 19th century. Another example is the appropriation of lands by international fruit companies in central America (Kugelman, M. and Levenstein, S., 2009).

Typically land grabbing practices involve investing in agricultural land, for the expansion of food production in countries considered to be less developed. The governments of such countries, in many instances, see a need to attract foreign investment in order to make greater use of their own territory (Hallam, 2009).

Some important trends in land grabbing include

- Long term leasing and outright purchasing of land in order to pursue food production.
- The increasing participation of entities from China, South Korea and the Gulf states.

- Private investors tend to be holding companies rather than agro-food specialists. Given that these private companies are usually funded by governments, it is not easy to distinguish between private and public entities.
- Furthermore, host governments often commit to formulating investment deals (Hallam, 2009).

Finally it is noteworthy that contemporary land grabbing occurs within a variety of crises; such as those involving energy, finances, food, fuel and global warming. Given these crises, it is not surprising that one sees a preference for products that have more than one use, are easily exchangeable and lend themselves to flexibility. Examples include soy, since it is the source of both biodiesel and food; and sugarcane, a source of both fuel and ethanol. Corn is also a flexible product, as it constitutes feeding material for animals, food for humans and is a useful source of ethanol. Palm oil has industrial applications, as well as being very useful as a means of deriving food and biodiesel (Borras et al., 2012).

In my interview with Saturnino Borras, he said that the very concept of land grabbing is intermingled with the classical political economy that supports technical approaches and the efficient allocation of resources. If 5 hectares of oil palm proves to be more monetarily profitable than other crops, then the company goes ahead and plants oil palm crops. This is how the predatory capitalism works.

Borras identifies some current salient features of land grabbing:

- It is so sophisticated that transactions have become difficult to detect.
- Due to minimal media coverage, the concerns of NGO's are overlooked, which allows corporations to consolidate their positions.
- Entities do not acquire land merely for the sake of grabbing territory; rather it is for the underlying resources such as water and forestry.
- The emphasis is more on the concentration of land control than on the concentration of land acquisition just for the sake of acquisition.

3.2. Relevance to Development Studies

Studying land grabbing requires a deep analysis of the main theories of development. The very concept of land itself and of course the distribution of land constitute a central issue when one discusses the expansion of colonialism, imperialism and globalization.

3.2.1. Market and commodification of labor and nature

According to Polanyi (1944), a market economy is self-regulated, in other words it is regulated by market prices. Moreover it relies on the aspirations of human beings to achieve as much profit as possible. The pervasive presence of money is naturally a fundamental prerequisite in this economic model. Goods, labor, land itself and indeed every component of an industry, including production, are a part of the overall market. All of these elements are fundamentally part of market transactions.

Market prices are commodity prices that may take the form of wages, rent and interest, respectively. Labor is simply the human activity known as work, and land is merely the environment where societies exist. Their inclusion in the market economy implies subordination to the laws that regulate markets. Selling work entails the disposition of a physical, psychological and moral entity, possibly propelling it towards corruption and crime. Selling nature often entails its pollution and the destruction of food production power and raw materials. This process may not address the fact that labor and land are not essentially separable (Polanyi, 1944).

Since labor is part of the human condition and land is simply the nature itself; both life and nature are a whole, within which ancient forms such as kinship, a sense of neighborhood and creed arrange themselves. On the other hand, market economies turn them into commodities that constitute factors of production. In terms of this research, it is pertinent to highlight that Polanyi does not just see land as a place where labor takes place, but that it also has an intrinsic value, in that it facilitates stability, human habitation and safety in the lives of human beings (Polanyi, 1944).

3.2.2. Further exploration of the concept of nature and capitalism

Bernstein (2010) asserts that productivity is measured according to the land yield. In other words, the ratio between successfully harvested crops and the cultivated land. Such measurements could also factor in the number of crops involved and the time spent cultivating them.

Nevertheless, productivity often does not depend only on human energy or the intrinsic value of the land itself. It also depends on the application of technologies. The latter require large land holdings and the use of other inputs such as seeds, fertilizers and irrigation. Other considerations are relevant here. These include factors related to raw materials, such as the fertility of soils, the water supply; also the types of seeds used and their quality. These are the technical conditions of farming; however its political economy is a more complicated process that involves relationships and determines the organization of production. (Bernstein, 2010).

Population expansion, that occurred through the appearance and growth of agrarian societies, is concurrent with the cultivation of plants and the domestication of animals. These kinds of contexts result in organizational structures wherein farmers pay landlords rent with money, labor, part of the crops, or a combination thereof. Moreover, they typically pay taxes to the state and repay owed amounts to any moneylenders who have advanced them funds (Bernstein, 2010).

A dominant class also ensures its rise through the appropriation of any surplus labor. In a process called *accumulation* the dominant class furthers its interests by profiting, through promoting productivity. These elements lay the groundwork for the emergence of capitalism (Bernstein, 2010). Land is therefore commodified or simply converted into private property, as Polanyi has pointed out (1944).

3.2.3. Accumulation

In this research I evaluate two aspects of the concept of accumulation by taking into account factual evidence of land control concentration in Colombia. Primitive accumulation and accumulation by dispossession are salient factors in my observations.

3.2.3.1 Primitive accumulation

Marx (1867) cites what appears to be a vicious circle: Accumulation presupposes surpluses gained by the ruling classes whose survival depends on capitalist systems of production that involve prior appropriation of capital and labor. The accumulation process is self-perpetuating. The origin of primitive accumulation is typically traceable to a decisive moment when force resulted in appropriation through conquest, robbery and subsequent servitude.

According to Marx (1867), capitalism separates workers from control of the means of production thus forcing them to sell their labor. The incipience of this is discernible in examining the end of the feudal age when laborers ostensibly escaped outright slavery. To survive, the newly-free individuals, divested entirely of the means of production, had to sell their own labor. This is self-evidently true for peasants, whose detachment from land is the basis of this process. *“And the history of this, their expropriation, is written in the annals of mankind in letters of blood and fire”* (Marx, 1867, p. 508).

In further analysis, Marx (1867) describes a former model of land occupation in feudal Europe when peasants usufructed lands for cattle breeding. At the end of the 15th century, the rise of capitalism transformed that status quo. New proletarians, no longer bound by feudalism, found themselves adversaries to the new nobility who had a proclivity for changing arable land into sheep country; in order to benefit from increasingly lucrative English wool prices.

These changes were more evident during the so-called “glorious revolution” that brought capitalist appropriation of surpluses. Foreseeing the ever-expanding profitable trading of lands that would result in more modern farming practices, capitalists pursued larger scale agricultural models, by taking public lands. In 18th century Europe, using new laws in what amounted to robbery, landlords granted themselves communal lands by issuing decrees.

Thus, having no choice, the dwellers on these formerly communal lands had to sell their labor to the dominant capitalist class. Ultimately in the 19th century, any sense of land bonds that agricultural workers had, was vanishing. Dispossessed agriculturalists suffered systematic eviction through such injustices as cottage clearances (Marx, 1867).

Harvey (2010) explores the concept of primitive accumulation through the lens of Marxist theory. The new bourgeoisie, consisting of mercantile, manufacturing and capitalist financiers used whatever State apparatus they could to benefit themselves. They appropriated peasant lands; typically through manipulating laws and regulations, with the complicity of large landholders, in what amounted to widespread theft of communal property. This forced landless peasants to resort to begging and robbery in the midst of pervasive vagrancy.

Harvey (2010) seems to conjecture that the Marx narrative may be somewhat hyperbolic since some instances of primitive accumulation were rather peaceful. Some who left the land were not forcibly displaced but gravitated of their own volition to urban centres, to seek employment. Harvey also doubts the idea of primitive accumulation that occurred during a certain period of time and ceased. Harvey cites Rosa Luxemburg to point out connections between accumulation and exploitation methods, the prevailing international loan system, general policies, warfare and other elements of colonialism.

Harvey (2010) in his summation, does however appear to be broadly in agreement with Marx, in defining what he calls neocolonialism, as being a form of exploitation that shifts assets in favor of capitalists. This reallocation of resources was closely tied with the privatization of public lands and international systems of credit.

Currently, primitive accumulation tends to emanate from peripheral zones outside the traditional centres of capitalism. China provides a salient contemporary example of this, in that agrarian workers there, are becoming populations of low salaried urban dwellers. Forced expropriation of land traditionally controlled by low-income agricultural workers is common in Africa, Latin America, South East Asia and South Asia. Typically, this displacement occurs because of the large scale extraction of natural resources by powerful entities such as

corporations. India exemplifies this as well, with its preponderance of special economic zones. On the subcontinent low-income agrarian workers tend to suffer displacement through the arrival of large agroindustries who possess special privileges (Harvey, 2010; Levien, 2013).

Harvey proposes that the aggressive strategies of current financial institutions such as those on Wall Street constitute primitive accumulation in their use of for example, credit card systems. However, more pertinent to the modern tactics, including privatization is accumulation by dispossession (Harvey, 2010).

3.2.3.2 Accumulation by dispossession

Given the current pervasiveness of predatory practices within modern day capitalism, it would unduly diminish the importance of the idea of accumulation to assign it as a phenomenon only of the distant past. It still manifests itself in the displacement of local small agriculturalists, the formation of landless populations and in the privatization of social goods. Modern accumulation may be the same in essence, but it now comes with new terminology that reflects current and familiar notions and practices (Harvey 2003; Glassman, 2006; Ulas, 2014).

One could aptly use the term *accumulation by dispossession*. This describes the enrichment of the most powerful classes of people at the expense of the more economically disadvantaged, for example, by privatizing social goods, namely, pensions, education, healthcare, public lands and state enterprises (Harvey, 2010).

As with primitive accumulation, accumulation by dispossession implies an extraction of surpluses through mechanisms of a greater complexity. This occurs with an intention of aligning existing models to consolidate more capitalist models. The creation of special economic zones may exemplify this. Small farmers may be expelled to facilitate the expansion of larger scale programs, typically using legal mechanisms with State endorsement (Harvey 2010).

Unlike primitive accumulation, this scenario entails the presence of capitalist structures where corporate actors perform land grabbing by means of complex legal mechanisms, expanding their operations and transferring capital to more remote places. This process involves progressive commodification of labor and land, bypassing prior structures. Furthermore, the perpetrators of land grabbing convert both collective land and State land into private property. They suppress alternative production systems and even misappropriate natural resources (Harvey 2003).

Harvey (2003) sees the State as an actor in supporting accumulation by dispossession as a mechanism for facilitating the entrenchment of the capitalist system. For example, Mexico has reduced its standards of protection of rural and Indigenous populations due to pressure from the United States. The US has used certain forms of compulsion on Mexico with a view to forcing privatization, in return for opening up the US market to Mexico and for the continued provision of aid.

3.2.3.3. Privatization of social goods

As Harvey cites (2003), privatization expanded rapidly across the globe during the seventies, to the great advantage of the most prosperous sectors of societies and at the expense of the poorer classes. Increasingly the private market took control of the supply of water, electricity, energy and transportation.

Such social goods that were once free or at least quite cheap, became so costly that the very poor could no longer afford them. The case of Mexico is interesting. The land rights of Indigenous Mexican people were previously enshrined in the constitution and known as the Ejidos system. However, the Salinas reforms of 1991 allowed their privatization. Concomitantly, import barriers related to agricultural products from the United States were lowered. Rice, corn and vegetables from the United States displaced items from local producers who could not compete (Harvey 2003).

The issues around large tree plantations in Brazil also exemplify accumulation by dispossession. Corporative owners of such plantations, at the expense of the wider public,

have typically occupied vacant and public lands; including tracts of territory traditionally used by various local ethnic groups, converting them into private property. The Brazilian state is complicit in this displacement, through excluding poor and traditional peoples, whose tenancies have become increasingly informal and precarious (Kröger, 2012).

Later I will analyze the legal strategies characteristic of land grabbers. Some of these include the creation of shell companies or similar, to bypass various restrictions on the acquisition of land. There are also instances of using congressional connections to legislate to the advantage of large investors, thereby facilitating their access to *Baldios*.

3.2.4. Social Capital

Bourdieu (1986) distinguishes between various forms of capital: economic capital, cultural capital and social capital. Economic capital is the one convertible into money and may take the form of property rights. Cultural capital is expressed institutionally in terms of possibly monetized delivery of education. Social capital expands through social connections and obligations; its institutionalization may occur by means of titles of privilege and nobility. It may also under certain conditions involve monetization.

In this analysis social capital has a special relevance, since social connections are still a secure path for accessing resources. I will clarify this later. Bourdieu (1986) discusses these concepts in terms of durable networks of social recognition that allocate various amounts of power to constituents. One can identify the status of various individuals by social markers that may denote one's likely standing within a community. Examples of this may include one's political party, one's school, one's address, one's family or one's economic class.

Social capital might be measurable through the size of the network of an entity and may link up with economic and cultural capital (Bourdieu, 1986). Naturally, social capital must be converted into some profit, both economic and symbolic. This will depend on the solidarity of the group, whose origins lie in institutional efforts in making lasting relationships; for example those formed in the neighborhood or the workplace. By means of various exchanges (such as gifts) social recognition intensifies. According to Bourdieu (1986) name recognition

can convert simple relationships into durable connections. People may take advantage of how much they are known to speak on behalf of the group. This dynamic may apply within political parties, mass movements and trade unions. This form of capital is convertible to money through such social exchanges and any related inherent shared values. Economic capital is located at the root of this process, since both cultural and social capital are monetizable (Bourdieu, 1986).

It is interesting to note Bourdieu's analysis of the monopolization of capital by the bourgeoisie since it is that social class that has significant access to formalized education and specialized networks, thus perpetuating its own power (Bourdieu, 1986).

The accumulation of Baldios in Colombia is not confined to large corporations operating in the Orinoquía region. The members of powerful traditional families with links to government ministries, are also active in this way (the General Comptroller Office [GCO], 2014). There is a channeling of privileged information towards special interests about land availability and low prices. Information gained by means of interactions based on social capital, can exacerbate the concentration of land holdings into fewer hands. Certain individuals and groups are able to gain privileged data on such things as subsidized loans, investing and information about conduits to protected markets (Portes, 1998).

3.2.5. Deconstructing the concept of Development

Development of the western kind gathered momentum according to Escobar (2012), just after World War II. Development entails the world view that modernization is the only path to industrialization and that is the only deliverance from the grip that archaic institutions have had on the economy.

Development is, properly speaking, not a concept but a discourse, which assembles capital investment and growth. This discourse defined underdevelopment as meeting undesirable deficits, such as inferiority, poverty, illiteracy, and hunger that make an impact on small farmers and landless campesinos. These apparent deficits are common in the so-called third world. The newly dominant states tended to modernize themselves, for example, through

cultivating more profitable crops, using larger expanses of land and applying pesticides. Such models tend to exclude small scale agriculture (Escobar, 2012).

This discourse of development at any cost tends to devalue the more culturally diverse aspects of the most remote regions in the world. Communities that do not comply with western priorities are considered undesirable. Polanyi (1944) notes the tendency human beings sometimes have, to protect values other than their own interests and material goods. He observed that many communities preserve their own social conventions and priorities rather than the goals of the individual. Two concepts are relevant in this context: reciprocity and distribution.

The notion of reciprocity tends to pervade the social organization of those cultures, typically encompassing the mores linked to sexual organization. In such non-western societies kinship and family tend to be major priorities. For instance, many individuals in such communities provide food to their parents without expecting payment. On the other hand, distribution, has to do with territorial chieftaincy. For example, some individuals share their products with local authorities (Polanyi, 1944). Rather than accumulate resources just for themselves, many individuals in such societies prefer to distribute them. Social bonds are a preferred mechanism for survival over that of individual accumulation. In contrast, modernized western paradigms place more emphasis on accumulation.

3.2.5.1. Development, rurality and hunger.

During the early seventies, the United States launched in Colombia the first experiment of rural development in the world: the Inter-Agency Project for the Promotion of National Food and Nutrition Policies (PIA/PNAN), created for raising the productivity of small farmers, and the increase in the proportion produced for food consumption. The most controversial part of the project was the Integrated Rural Development Program [DRI], whose targets were the so-called “backward” small units of production that constitute the peasant economy. This program focused on increasing the production of food by incorporating a market approach. This interesting approach included technology, training and infrastructure. Peasants could authentically become entrepreneurs (Escobar, 2012).

DRI carried out a set of mechanisms for modernizing the traditional agriculture by incorporating foreign technologies and by aiming to raise productivity, income and the extent of family labor. Small peasants received training in integrated farm planning, which was a technical approach for controlling the production process. Other components of the program included credit, natural-resource management, education, health, female empowerment, and sanitation. The project addressed some obstacles inherent in Colombian production systems; such as high costs of inputs, poor marketing conditions, insufficient extensions of landholding, lack of education and cultural attitudes that were thought of as backward. For overcoming these problems, the program convinced the peasants to adopt a technology that included seeds, herbicides, and chemical pest control. The aim was to cultivate certain crops, following strict practices guidelines. Well organized fields, cultivating routines, detailed plans and periodical records exemplify such innovations that had formerly seemed strange to workers who had been accustomed to cultivating a mixture of cash and food crops. The new model used less family labour (Escobar, 2012).

Citing Dario Fajardo, Escobar asserts that the DRI (Integrated Rural Development) program sought to improve living standards and increase production in the countryside without addressing the issue of inequality in the Colombian land tenure system (Escobar, 2012). The greater problem appears not to be exclusion from the market but the exploitation within it.

At the end of the DRI program, the peasants were still disadvantaged and largely impecunious. Overall the end results did not reflect the initial investments. The policy did not curtail rampant profiteering in Colombia nor restrain the transfer of surpluses from rural areas to the urban industrial complex.

Policies that may effectively address this situation include

- Fundamental agrarian reform that significantly changes the land tenure system.
- Community involvement in the consequent decision making.
- Technical support for autonomous production in peasant contexts.
- The implementation of integrated programs that facilitate credit and market access for disadvantaged agrarian workers (Escobar, 2012).

DRI operated under the supposition that small farmers would have to modernize their processes of production in order to survive in the market place. This perception constitutes a model that consigns small farmers to being viewed as an inconvenient mass, only fit for absorption into the dominant urban economy. Such an interpretation of reality absolved DRI of any blame for the failure, thus allotting the reason for dysfunctional outcomes to the peasants themselves. The preferred indicator of success, according to this world view, was monetary profit. Consequently, the only approved paradigm of successful rural development involved capital growth, the use of more advanced technology and the production of commodified and industrialized food (Escobar, 2012).

I have attempted to explain several theoretical propositions with regard to their relationship to the concentration of land control into fewer hands. The dynamics of accumulation have transformed, over time, into a more sophisticated model, based on modernized understandings of both social and economic capital. However, instances of forced dispossession continue to proliferate. Unchallenged notions of profit through competitive profiteering have exposed land and labor to the market, commodifying both and relegating alternative approaches to obsolescence.

4. CONCENTRATION OF LAND CONTROL IN COLOMBIA

In this section I focus on the relevance of armed conflict in the issue of land control in Colombia. I also address the introduction of agrofuels as a critical matter not only in Colombia, but also further afield, with regard to the increasing concentration of land control in fewer hands. I also explore the measurement of such concentration over land utility and ownership.

Of course, various additional factors affect land control concentration in Colombia. Narcotrafficking and violent dispossession of the land of small and middle-level holders are pervasive problems there. The use of reservation of lands as a power instrument as cited by Ibáñez (2012) is an area ripe for exploitation in the Colombian setting as well. Moreover, The Food and Agricultural Organization of the United Nations, concluded in its South American study of 2010 that Colombia was especially prone to violent episodes of land grabbing.

Rampant violence, rural conflicts, forced displacement and appropriation of lands by large landowners and entrepreneurs, paramilitaries and drug traffickers characterize land grabbing in Colombia. This situation has worsened through the state's provision of incentives to encourage private investments in areas involving mining and energy resources, agrofuels, soy, corn and forestry (Salinas, 2012).

4.1. Main aspects of concentration of land control in Colombia

Historically the reasons for the increased concentration of land control in Colombia are related to the expansion of special interest cattle projects. A total of 20 million hectares is a sustainable capacity for cattle rearing in Colombia. Yet in 2009, cattle raising was already consuming 39 million hectares (Salinas, 2012).

Contemporaneously the Colombian state encourages and actively supports investments in industries involved in land grabbing; such as agroindustries and mining interests. In fact, in 2009 8.5 million hectares were awarded as mining concessions and 30 million were requested

for the same purposes. Notably, the oil sector had obtained 30 million hectares for exploration and 2.5 million hectares for exploitation (Salinas, 2012).

4.1.1. Sugarcane production

Sugarcane is a tropical perennial grass, characterized by thick and fibrous stems with a high content of saccharide. It is better adapted to hot climates (temperatures from 16 °C to 30°C) with high sunlight exposition, located between 0 and 1000 meters above sea level. Its cultivation has high nutritional requirements, given its considerable production of green matter. This leads to soil depletion and therefore fertilization plans are needed (Ramírez, 2008).

In Colombia, sugarcane has been based in Cauca, Risaralda and mainly in the Valle del Cauca department. It occupies 200.000 hectares. They are distributed to 13 different sugar mills, 40 companies that process food and drinks, to 2 generators of electrical energy, 1 paper processor company and 3 sucrochemical companies (United Nations Economic Commission for Latin America and the Caribbean [UNECLAC], 2002).

The exploitation of sugarcane may add value given its multiple uses. The sucrochemical industry uses it as raw material for producing liquors, alcohol, citric acid, yeasts, carbonic gas, acetates, calcium carbonate and fertilizers. The confectionary and chocolate industries, run by at least 50 companies in Colombia, use raw materials composed of up to 80% sugar (UNECLAC, 2002).

The paper industry also uses sugarcane fiber as its main source material. Due to paper and cardboard production, roughly 40 companies constitute the graphic arts cluster, led by the Carvajal group, active in more than 18 countries. Other uses include energy production, where 80% of the cane fiber goes, generating more than 80 MW per year; and syrups used as fertilizers or as food for animals (UNECLAC, 2002).

These industrial groups dominate the Colombian sugarcane industry:

Manuelita: founded in 1863 and pioneer of sugar production in Colombia. This group also grows oil palm in the Orinoquía region and engages in some other activities such as clothing manufacture and shrimp farming for export. By 2002, Manuelita had become the owner of 22.000 hectares used for sugarcane cultivation (UNECLAC, 2002).

Ardila Lulle group: owner of a private TV channel (RCN), a Chain of radio stations, a glass containers company (Peldar) and Sucromiles, which produces ethyl alcohol, citric acid, yeast, gypsum, acetic acid, vinegar, carbon dioxide, acetates, calcium carbonate and agricultural fertilizers and others. Ardila Lulle is the owner of a soda business (Postobón) that competes with Coca Cola in Colombia; hence his interest in sugar production (UNECLAC, 2002).

Given the high costs of sugar, the group has decided to take control over the sugar mills Cauca, Providencia and Risaralda, active since the seventies. This group is the largest sugar producer in the country, using 20.000 hectares to grow sugarcane. Ardila Lulle then transforms it into sugar through the Incauca company (UNECLAC, 2002).

Riopaila group: founded in 1931 in Valle department for producing confectionery, is the owner of Colombina, a leading Colombian company in the candies sector. This group provides sugar for both the internal market and the international one, and uses its production for its own companies, that are focused on producing sweets, chocolates, biscuits and marmalades. Its sugar cane plantations cover 20.000 hectares (UNECLAC, 2002).

By 2002 the Colombian Sugarcane cluster occupied 207.462 hectares. 77% of these are located in the Valle del Cauca department and 20% in the Cauca department, resulting in a clear concentration around the Cauca river. Besides this cluster, the total cultivated area in the country is 429.000 hectares (Departamento Administrativo Nacional de Estadística [DANE], 2015). According to MADR (2016b), it is 255.612 by 2016.

4.1.1.1. Sugarcane transformation

Sugarcane is the only source for alcohol fuel production in Colombia. With different estimations for each cultivated area, this table describes the various ethanol plants in Colombia:

N.	Region	Investor	Capacity (L/day)	Raw sugar production	Cultivated area
1	Miranda, Cauca	Incauca	350.000	97.690	11.942
2	Palmira, Valle	Providencia Sugarmill	300.000	65.126	9.287
3	Palmira, Valle	Manuelita	250.000	81.408	8.721
4	Candelaria, Valle	Mayaguez	250.000	48.845	6.587
5	La Virginia, Risaralda	Risaralda Sugarmill	100.000	32.563	3.004
6	Puerto López, Meta	GPC	25.000	41.000	1.200
Total production			1.275.000	366.632	40.742

Table 1. Source: Delgado, Salgado, and Perez, (2015, P 17).

Ethanol can be made from different raw materials. Nevertheless, sugarcane has proved to be the most productive and cost effective. Few materials can compete with sugarcane given its economic advantages, according to studies carried out in the Valle department, wherein logistics are already installed. It is also important to highlight the presence of such plants in Puerto López, in the Colombian Altillanura (Delgado et al., 2015).

4.1.2. Oil palm cultivation

Oil palm is a perennial tropical crop whose productive cycle can last up to 50 years, though for reasons relating to excessive height, it is generally limited to 25 years. This is because cutting becomes difficult if the plant gets too tall (Aguilera, 2002).

Favorable harvests depend on soil quality, water availability and a suitable climate. The best conditions are characterized by volcanic soils in low lying areas, where rains are above 2.000 mm, where temperatures are hot, between 22°C and 33°C and sunlight prevails from 5 to 7

hours per day. Oil palm requires relatively long periods of time for production, with first yields at 30 months and maximum returns between the 8th and 10th years (Aguilera, 2002).

It is originally from the Guinea Gulf in Western Africa.

It was introduced to the Americas in the 16th century to feed slaves in Brazil. The Belgian, Florentino Caes, brought it to Colombia in 1932 and harvested it across much of the country for ornamental landscaping purposes. In 1945 the United Fruit Company pioneered its commercial cultivation in 100 hectares of the Magdalena department (Aguilera, 2002).

4.1.2.1. Agroindustrial processes of oil palm

Processing the fruit of the oil palm tree involves the extraction of the raw oil in a plant. The plant itself can be also be used for producing olein which is suitable for mixing with oilseed oil and for stearin, which is usable in soaps and in margarine production. Given its odourlessness and resistance to high temperatures, palm oil is widely used; in fact, it is the second most used type of oil in the world. It is utilized in pastries, confectionary, ice creams, sauces and as a milk fat substitute in the production of condensed and powdered milk (Aguilera, 2002).

Additionally, it can be used for things other than food production. Examples include the manufacture of soaps, detergents, candles, cosmetics, industrial fats for protecting pipelines and plastic sterilizer. It is also important for the production of acid for lubricating fibers in the clothing industry. In global terms, 83% of raw palm oil is transformed into cooking oil, 6.7% is used in the oleochemical industry (for producing acids, alcohols and glycerin), 3.6% is transformed into detergents, 3.3% into margarines, 2.8% into soaps and 0.6% into fats (Aguilera, 2002).

9.665.225 hectares are available for cultivating oil palm in Colombia. Of that, 3.531.844 hectares have no restrictions placed on their use and 6.133.381 have moderate restrictions. These moderate restraints are in place because those areas are not humid enough. Of all the

countries in the world, Colombia has the most suitable conditions for growing oil palm (Aguilera, 2002).

The best lands for oil palm cultivation in Colombia are in the Meta department's piedmont and around the Magdalena, Cauca, Sinú and Patía rivers. Other suitable lands that have moderate restrictions, include the Caribbean coast. Lands with severe restrictions include the Colombian Altillanura (Aguilera, 2002).

Oil palm cultivation in Colombia has progressively increased since the sixties, when plantations covered only 18.000 hectares (Mujica, 2010). By 2015 cultivations covered 664.337 hectares. According to some estimations, by 2020 they will occupy 996.296 hectares (Salinas, 2012).

The promotion of palm oil production for cooking purposes in Colombia, has increased since the fifties. A greater emphasis on palm oil for biodiesel production has become apparent in the last decade (Salinas, 2012).

Colombia is the preeminent oil palm producer in Latin America and the fifth largest in the world (Delgado et al. 2015). Given this, Colombia commenced producing biodiesel in 2008. Currently there are 6 biodiesel plants. The table below depicts the current status of this resource:

Region	Company	Capacity (tons per year)	Cultivated area in hectares	Operating since
Codazzi, North	Oleoflores	70.000	15.555	Jan.2008
Santa Marta, North	Odín Energy	36.000	8.000	Jun.2008
Santa Marta, North	Biocombustibles sostenibles del Caribe	100.000	22.222	Mar.2009

Facatativá, East	Bio D	100.000	22.222	Feb. 2009
Barrancabermeja, Center	Ecobiodiesel de Colombia	100.000	22.222	Jun.2010
Barranquilla, North	Clean Energy	40.000	7.000	Jun.2010
San Carlos de Guaroa, Meta, East.	Aceites Manuelita	100.000	22.222	Jul.2009
Total		546.000	119.443	

Table 2. Source: Delgado et al. (2015, p 22)

Colombia is still far from the production levels of Indonesia and Malaysia, the world's leading oil palm producers. Nevertheless, Colombia has 5 times more land available for such crop (Delgado et al., 2015).

4.1.3. Current situation of biofuels in Colombia

The Colombian State has heavily incentivized the production of agrofuels by issuing relevant acts, some of which are described here:

Act 693 of 2001 stimulates the production of fuel alcohols ordering its use in gas consumed in urban centers that have more than 500.000 inhabitants, according to the requirements of the Ministry of Mining and Energy.

Act 939 of 2004 promotes the production of bio-fuels from vegetable or animal sources, allowing their use in diesel motors, and exempting it from taxes such as VAT.

Decree 383 of 2007 supports agroindustrial projects reducing by 50% the required investment for recognition of free trade zones. The standard projects are required to invest 150.000 Colombian monthly minimum wages whereas agroindustrial projects must invest 75.000 monthly minimum wages.

Decree 2629 of 2007 promotes the use of biofuels, ordering that new vehicles must be tailored for using gases made with either 80% basic gasolines and 20% fuel alcohols or 80% diesel and 20% fuel alcohol. This regulation was modified by Decree 1135 of 2009, which promotes the use of Flex-fuel systems (E85). That is, those that enable vehicles to work using mixtures made of fossil oils and at least 85% of fuel alcohols. By this decree the government ordered that by January 1, 2016, those brands that produce and trade in the Colombian market must adapt 100% of their vehicles with motors, up to 2000 cms³ to the use of E85.

Decree 2594 from the year 2007 has resulted in the Fund for risk investments, whose objectives include supporting and developing productive initiatives in zones with low private investments, are prioritizing agroindustrial projects. The fund, formed by resources from the national budget, invests in specific projects, either by capitalizing the companies that perform such activities or by direct participation in these.

Decree 4892 from the year 2011 necessitates that consumed gas must be a mixture consisting of 10% fuel alcohol combined with basic gasoline.

Ethanol fuel demand is partially covered in Colombia. Up to 82 % of consumed ethanol is internally produced (260-300 million liters). Nevertheless, it is not enough for fulfilling the national E10 requirement (90 % gasoline; 10% ethanol). On the other hand, the internal market has a deficit of 61% deficit in the production of biodiesel fuel production. This situation has encouraged companies to lobby for increasing production levels. In any case, regulations such as Decree 1135 of the year 2009 requires the use of E85 in vehicles of up to 2000cms³ in order to encourage the production of biofuels (Delgado et al., 2015).

4.1.4. Land tenure and biofuels production

Due to the informality of the Colombian land market it is sometimes difficult to determine what the mechanisms are for controlling the lands where projects are conducted. However, in the case of oil palm it is possible to find out what some of the trends are. It is notable that

the lesser cultivators of oil palm, specifically small farmers, often coordinate with the bigger players, such as larger plantation owners and those in control of processing infrastructures (Salinas, 2012).

Companies and small farmers may form a productive alliance in which the latter commit to cultivating perhaps 10 hectares with the former managing credits and subsidies, and offering technical assistance, seeds and supplies. Small producers are also integrated through such work cooperatives. In these scenarios, workers' rights, covered in conventional contracts, are often not observed (Salinas, 2012). It seems that generally speaking, it is possible to gain control of lands and workers without regard to property rights or fair employment relations.

Taking that into account, it is pertinent to note that 72% of the relevant area where sugarcane is grown - corresponding to 52% of sugarcane farms- belong to entrepreneurs, whilst individual farmers control the remainder. Sugar mills control 49% of the land, either through ownership, participation accounts or simply renting the land (Salinas, 2012). Such a situation indicates that inequitable concentrations of land control do not always have a direct correspondence with who owns a particular piece of land.

According to a former executive of the Federación Nacional de Cultivadores de Palma de Aceite (FEDEPALMA, Federation of oil palm Cultivators) whom I interviewed for this thesis, we should identify zones where there is proven inequitable concentrations of land ownership. Those zones with high levels of inequitable concentration of land due to the prevalence of monocultures, such as oil palm and sugarcane, are not necessarily associated with poverty. This is because such agrobusinesses may create formal jobs with high salaries, thus developing social corporate responsibility projects. This occurs, for instance, in Valle del Cauca. Land expropriation in zones where large-scale projects are based to facilitate the redistribution of wealth, could lead to even more poverty whilst disregarding the interests of impoverished peasants, who do not have an immediate right to acquire such lands. In contrast, land concentration measured on the Caribbean coast, mainly caused by cattle raising is associated with poverty through the high prevalence of poorly paid casual employment.

The interviewee adds that monocultures benefit investment rather than land ownership; specifically land is merely a factor of production. Where industry creates wealth through productive use of tracts of land, ranchers - less interested in profiting through investments - prefer to gain wealth through land acquisition itself.

4.1.5. Forced displacement and dispossession.

The origins of the internal armed conflict in Colombia are not yet completely understood, even though they have had an inordinate influence on land grabbing. However they do make the situation unique. Even before the creation of the Fuerzas Armadas Revolucionarias de Colombia (FARC, Revolutionary Armed Forces of Colombia), from 1946-1966, violence between the main traditional political parties displaced 2 million people and exacerbated land concentration by influencing conditions for the transferal of 300.000 property titles. Later, during the eighties, drug lords and paramilitary groups appropriated 4.4 million hectares for laundering their ill-gotten fortunes and controlling territories used in drug production. This resulted in human rights violations, specifically massacres, disappearances, and forced displacement, leading to land dispossession. Sources other than institutional ones have indicated that the armed conflict has displaced more than 5.1 million people and that 6.6 million hectares have been dispossessed (Salinas, 2012).

Armed groups, such as guerrilla bands and various paramilitary forces, are not the only actors in the dispossession process. The displacement can also be caused by cattle ranchers, drug barons, land speculators, institutional authorities and both intra-national and international firms (Gómez, Sánchez-Ayala and Vargas, 2015).

By 2002, the armed conflict became dramatic and paramilitaries actively used forced migration as a strategy for depriving FARC of any social support. For example, sometimes they expelled civilians from areas once dominated by FARC. They also transferred lands as a recompense to local elites or collaborators for their help in the war, thus making their networks stronger. Sometimes paramilitary leaders simply appropriated the lands for maximizing their wealth (Gómez, et al., 2015).

Some official surveys found that 31% of victims accused paramilitaries of displacing them, whilst 41% blamed guerrillas. Frequently the strategies of the guerillas led indirectly to the small land holders abandoning their lands rather than losing tracts through being directly dispossessed by the insurgents (Gómez, et al., 2015).

A former director of the Legal Department of the Unidad Administrativa Especial para la Gestión de Tierras Despojadas ([UAEGRTD], Special Administrative Office for Restitution of Deprived Lands Management) whom I interviewed during my fieldwork, explained how guerrilla movements forced land abandonment without official property transactions being recorded. Guerrillas aimed to populate these lands with families of their allies. Furthermore, paramilitaries often forced land transactions by threatening certain owners. In some regions they used public offices in charge of land management such as the Instituto Colombiano para la Reforma Agraria ([INCORA], The Colombian institute for agrarian reform), or Instituto Colombiano de Desarrollo Rural ([INCODER], The Colombian Institute for Rural Development) in order to obtain pertinent land titles.

In Colombia, armed conflict is pervasive. Guerrilla movements, paramilitary forces, drug cartels and others have systematically and ruthlessly divested poorer agricultural workers of their land holdings for their own use, thus forcing them to migrate to more populous urban centres. This primitive accumulation has sometimes boosted economic development by displacing and dispossessing small landholders whose cultivations were not as profitable as those of agroindustries and cattle ranchers (Gómez, et al., 2015; Thomson, 2011).

Such episodes of dispossession have resulted in the transformation of extensive tracts of countryside once dominated by small scale agriculture. The dominant conceptual notions of economic development have in such a way been able to prevail. One well documented example is in the Lower Atrato Valley, where, after the paramilitaries took control of the area, the cultivation of oil palm became pervasive. Similar situations occurred in Meta department, when firms took advantage of scenarios characterized by forced displacement and the murder of labour union leaders who had been asserting human rights. Yet another

example is in Montes de María, where large projects were undertaken in abandoned lands (Cramer and Wood, 2017).

Rey Sabogal (2013) studied and confirmed this association between oil palm. As a matter of fact, only 8.2% of municipalities cultivate this crop in Colombia, but they constituted 22.4% of total forced displacement. Moreover, in areas not used for this cultivation there was a displacement rate of 97 per 1000 inhabitants whereas 181 per 1000 inhabitants were expelled in areas that did cultivate oil palm. The study found that there is a correlation between the variables oil palm and forced displacement in municipalities in Antioquia, Bolívar, Chocó, Meta, Norte de Santander, Cesar, Magdalena, and Huila (Rey Sabogal, 2013).

4.2. Measuring the concentration over land control in Colombia

Land distribution is associated to the concept of equitable distribution, which means that in a given population each member has a proportional fraction of the land. Ideally, in a population of 500 each individual should have 5% of a given area. A Gini of zero indicates a completely equitable rate of distribution and a Gini of 1 indicates a completely inequitable distribution (Rodriguez and Cepeda, 2011).

The informal nature of land distribution arrangements and data collection in Colombia make precise conclusions problematic. For instance 52.2% of lands lack property titles (Perfetti and Saavedra, 2017). Vogelgesang (2003) links this informality with the high cost of registrations. The latter creates often insurmountable hindrances for low earning agricultural workers.

Noting this problem, a reasonable measurement based on the national cadaster found that by 2000, 97.1% of landholders owned 41.6% of the total area; in other words, 58.4% of the land is owned by 2.9% of owners. Widening the margins, 80% of the land is owned by 10% of the owners. By that same year, the national GINI index was 0.8479, indicating a high level of inequity in land ownership. In distinguishing the different regions, the Andean region was 0.75; the Caribbean region was 0.68; and the Pacific region was 0.75. Given that some departments in the Amazonas regions do not have valid data, (for example, Vichada, Vaupes

and Guainía), those from the Orinoquía region are grouped with those from Amazonas that have information: Putumayo and Caquetá. This group has the highest GINI index: 0.78 (Rodríguez and Cepeda, 2011).

Note that land allocations to indigenous populations and black communities could lead to the raising of the land concentration index in Colombia. Castaño points out that by 1960, the GINI was 0.84 and by 1984 it was 0.85. Six years later, when the political constitution that recognized the land rights of different ethnic groups came into force, the GINI index rose to 0.91. Without such allocations the GINI would have dropped to 0.86 (as cited in Ibáñez, 2012). This was confirmed by a representative of FAO in Colombia whom I interviewed when conducting fieldwork in July, 2017.

According to Ibáñez (2012) other calculations include those of Rincón, who states that the Gini index rose from 0.85 in 1984 to 0.88 in 1996. Heath and Deininger concluded that it decreased from 0.86 in 1960 to 0.84 in 1988. Deininger and Lavadenz concluded that by 2003 the index was 0.85. Despite the variety of these studies cited, they are consistent, as shown in the table below.

Year	Cega	Mesa	Machado	Rincón	Castaño	Ossa	DNP	Offstein	Atlas
1960	0.841	0.8677							
1970	0.84								
1984	0.851		0.839	0.819	0.836	0.839			
1988		0.8403							
1997			0.88	0.801	0.843	0.863			
2002							0.878	0.845	
2009									0.885

Table 3. Concentration of land in Colombia in GINI index terms. Source: Ibáñez (2012, p71).

In addition, according to UPRA (2016a), the GINI index in Colombia in 2016 was 0,8789.

In summary, this chapter addresses relevant elements regarding concentration of land control in Colombia. I described some of the relevant aspects of the transformation of land use towards the increased cultivation of cash crops such as sugarcane and oil palm in Colombia; especially in relation to land distribution. I also discussed some elements relating to armed conflict, focusing on its relation to agroindustries and unequal concentrations of land ownership. I also reviewed factors relating to the measurement of land distribution in Colombia. Finally, I have introduced a discussion of the GINI index, something that I have relied on heavily, in doing this research.

5. THE COLOMBIAN AGRARIAN CONTEXT

In this chapter, the origin of *Baldíos* is introduced in order to understand the history of the concept and the purposes for which they have been used. Such lands have probably been at the epicenter of land redistribution and agrarian reform in Colombia. This data will also be analyzed from a historical perspective, with a view to comprehending its importance in the local political dynamic. This analysis is summarized in terms of legal instruments that regulate a very conflictive scenario.

5.1. The origin of *Baldíos*

Since the beginnings of the Colombian republic, the state has promoted settlements through land colonization, thus building a rural structure dominated by large land-holders. Even before the independence of Colombia (1819), landholders had already concentrated vast tracts of land through both legal and illegal methods, thus turning the land into private property. Nevertheless, large expanses of land known as *Baldios* still remained without any ownership. As such they often became the object of disputes (Machado, 2009b). Some of the appropriation methods used to acquire such lands included, according to Machado (2009b):

- The selling of *Baldíos* to pay off public debts.
- The awarding of *Baldíos* to members of the independentist armies, either as compensation or as civil war booty.
- *Baldíos* being awarded to immigrants as a reward for populating certain regions.
- Colonization performed by entrepreneurs or peasants.
- Illegal appropriation of *Baldíos*. This included the extension of boundaries and the use of legal trickery such as the counterfeiting of land titles.
- The awarding of *Baldíos* to settlers (since 1848).
- The awarding of *Baldíos* for explorations of quinoa, rubber and tagua, in order to export them.
- The awarding of *Baldíos* to foreign companies as an exchange for infrastructure construction and urbanization or for oil and mining exploration.
- The appropriation of *Baldíos* located around swamps or lakes cattle raising.

- Through violence against black and indigenous peoples.

As stated by Machado (2009b), most of these lands were awarded to entrepreneurs and capitalists, whilst settlers obtained the marginal areas. This practice, in addition to land expropriations resulting from armed conflict and market forces, led to concentration of land control. More important than socioeconomic development in determining the distribution of land ownership, was the influence of large landholders, merchants, politicians and military forces. At the same time, this situation resulted in the perpetuation of conflicts between landless farm workers and their continued inability to emerge from mere subsistence agriculture.

After the independence war the Colombian state faced some salient economic problems. War debts had to be paid, and since the land was the only valuable resource the state had, *Baldíos* were used. Large extensions of territory with no area limitations applying, were awarded as payments. However, some small extensions were awarded to poor peasants in order to foster the occupation of inhabited lands (Machado, 2009b).

In 1870, an export boom forced the state to change its public policy on *Baldíos*, focusing increasingly on issuing titles to those who independently cultivated the land. This had the effect of targeting agrarian sector development, even though property rights did not guarantee the right to economically utilize such land. At the same time, other peasants were not able to obtain the various titles, despite their occupation of those *Baldíos*. They were typically unable to pay the adjudication expenditures such as land surveying, attorney's fees, real state registrations or the travel expenses of the authorities. These difficulties are ongoing and constitute a serious problem for enabling the acquisition of property in Colombia (Machado, 2009b).

At the end of the 19th century and at the beginning of the 20th century, the state awarded the better *Baldíos* to large landholders as an exchange for building public infrastructure. This occurred at the expense of landless peasants, who were thus compelled to work as servants. This eventuated in a social structure based on the concept of land intrinsically as a source of

wealth, rather than as primarily something to use for cultivation. From 1830 to 1930, 5.500 land concessions were issued, equivalent to 3.300.000 hectares (Machado, 2009b).

5.2. The agrarian reform

Those land distribution structures characterized by high levels of inequitable concentrations of property ownership, rural poverty, inadequate incomes, armed conflict, and lack of employment opportunities, justify the implementation of agrarian reforms (Machado, 2009b). In Colombia, Machado (2009a) has synthesized as follows the conditions that would underpin redistributive agrarian reform:

- a) Highly unequal distribution of property.
- b) High levels of poverty in rural areas.
- c) Economic stagnation in the countryside.
- d) Political and social instability.

The author concludes that agrarian reforms are linked to the level of social and economic sustainability in the particular capitalist model of development. The nature of the latter seriously affects the rural sector.

In Colombia, some attempts at agrarian reform have been made since the 20th century. One example is the Act on Land Regime (Act 200 of 1936), which required some proof of property ownership and the power to restrict property rights in cases where lands were not being used (Salinas, 2012). This Act also contributed to the formal clarification of land ownership whose propriety status was unclear. It also identified those that were previously occupied, and facilitated the recovery of *Baldíos* for redistribution, following traditional concepts of agrarian reform (Franco and De los Ríos, 2011).

Later, in 1961, Act 135 aimed for the first time in Colombian history to institutionally organize rural reform, targeting issues such as the following: land allocation to peasants who lack any other tracts, land adaptation for purposes of production and the provision of basic social services (Franco and De los Ríos, 2011). This Act resulted in INCORA, whose main

function was to manage rural lands through using the National Agrarian Fund. This was made possible through using sums from the national budget, from payments related to the vending of lands and services and from other sources.

During this period, other relevant institutions were created such as the Family Agricultural Unit. It was to address the exploitation of land exerted by one individual family. In order to guarantee the creation of capital, families had to spend up to one third of their monthly incomes on paying debts that originated in the acquisition of the land (Franco and De los Ríos, 2011).

Act 135 attempted to reform the agrarian structure by methodically redistributing lands and suppressing unequal concentrations of ownership; following the principles of Act 200 of 1936, but incorporating an institutional approach (Franco and De los Ríos, 2011).

Act 1 of 1968 confirmed property rights suppression in cases of unused lands. And It institutionalized the communication between the State and the peasantry by creating the Asociación Nacional de Usuarios Campesinos ([ANUC], National Association of Peasants). This facilitated the participation of small land-holders in the policy-making process (Franco and De los Ríos, 2011).

Act 4 of 1973 incorporated criteria for assessing the usage of lands by function of their productivity. It facilitated land allocation by means of a presumptive agrarian rent. As such it promoted its productive management strategies and sanctioned its low profitability. In any case, if the holder could prove the provision of foods and education to the children of employees, regardless of productivity, the land would not be expropriated. Additionally, the act reduced the bureaucracy required for land title grants, by means of regulating direct acquisitions. This act preserved redistribution as a mechanism for changing agrarian structure, but added a productivity component for being allowed to keep the titles on the land (Franco and De los Ríos, 2011).

Act 30 of 1988 changed the redistributive approach. Instead of focusing on expropriating lands, the state preferred to purchase them for redistribution programs. Large land-holders sometimes took advantage of this situation by selling off unproductive lands (Franco and De los Ríos, 2011). This initiative was the last attempt at redistributing lands in Colombia through *Baldíos* expropriation and the provision of land grants.

Act 160 of 1994 shifted from a redistributive approach to a land market approach. Peasants could now purchase lands, paying 70 % of the price from their own budget and obtaining the rest from financial mechanisms and subsidies that were contingent on the existence of a legitimate on-going productive project. In this case INCORA performed solely as a mediator between owners and peasants. It is also noteworthy that this act changed the perception of the Family Agricultural Unit, understood thereafter as the basic enterprise for agrarian production that could enable families to generate remuneration for their work and save money (Franco and De los Ríos, 2011).

Decree 1300 of 2005 terminated the functions of INCORA and created INCODER. This extended the mechanisms of Act 160 (1994), newly incorporating an integral subsidy for purchasing lands that were now reliant on INCODER's budget and could cover up to 100% of the cost of the land. For accessing the subsidy, the applicant would have to prove a disadvantage caused by poverty. Furthermore, the applicant would have to be working in the countryside and to lack any other land. In addition to fulfilling the conditions set by the Family Agricultural Unit was added a further requirement of demonstrating a income equal to two minimum wages (Franco and De los Ríos, 2011).

After the peace negotiation between the Colombian government and FARC, the former disbanded INCODER by means of decree 2365 of 2015, and through decree 2363 of 2015 created the Agencia Nacional de Tierras ([ANT], National Agency of Lands). The ANT is the general manager of public lands in Colombia that promotes access to private lands on the part of peasants. Later, the Colombian government issued decree 902 of 2017, which unified the criteria for land grants and created both a registry of potential beneficiaries, and a fund to use the lands for peace (Perfetti and Saavedra, 2017). This fund was agreed to during the

peace negotiation and aims to grant lands to those rural workers who lack them. The fund is composed of recovered *Baldíos* and lands expropriated because of illegal activities linked to them. Other sources of monies constituting the fund, are lands subtracted from protected areas, donated land and other miscellaneous origins.

Despite the various above-mentioned attempts to reform the rural structure in Colombia, the results are still poor. Rural reform in terms of *Baldíos* has not been successful, as noted by some academics as follows:

1. From 1901 to 2012 the state awarded 23 million hectares, constituting 60 % of national private property. Nevertheless, the agrarian reform that started in 1961, awarded only 1.76 million hectares, that is, 7% of all lands awarded.
2. The Family Agrarian Unit regulation has not been fully applied, given that since the enforcement of Act 160, 83.9% of awarded lands do not have the minimum extensions, whilst 59.7% of farms in Colombia are larger than 500 hectares.
3. Rural informality of land holding is high, since 52.2% of land exploiters do not have property titles.
4. *Baldíos* recovery has not been effective. For example, between 2010 and 2014 6.627 relevant legal processes were started but only 585 were completed (Perfetti and Saavedra, 2017).

Some studies have stated that Colombian rural reform has only been marginal, insufficient for effectively modifying the land-holding structure. One of the more important criticisms is that the Colombian State has been concentrating more on acknowledging facts than managing actual redistributions. For example, since 1991, 92% of land grants match *Baldíos* adjudication and the formalization of collective land rights for indigenous and Afro-Colombian peoples. However the expropriation of idle lands and land purchases has not been significant (Salinas, 2012).

The reasons why agrarian reform has failed are still not clear. Nevertheless, during my fieldwork in Colombia in July 2017, two relevant interviewees from FAO as well as one from

the Department for Agrarian Affairs of the General Attorney's Office stated that Colombian Acts are progressive and achieved after land struggles and negotiations between social movements and governments in force.

For example, since 1936 the prohibition on the use of idle lands has been in force, in order to counter the inequitable ownership concentrations of private lands. However the absence of political willingness has made this Act an under-used tool.

The interviewees agreed in pointing out that the real cause is a lack of willingness to apply the Act. Institutes such as the Family Agricultural Unit, expropriations and land ethnic rights are under-used in countering inequitable land distribution.

According to a former executive of FEDEPALMA, the State should disincentivize or even prohibit the under use of lands. Some strategies, such as increased taxation have been attempted. Nevertheless, this policy has failed because some cattle ranchers launder money from drug trafficking by purchasing land or simply they have enough money for paying the tax. My interviewees agree that the under use of Act 200 (1936) has resulted in a lack of enforcement of the requirement for productive land use.

5.3 Institutional framework

Since the Colombian republic began, there have been countless land regulations, too numerous to analyze here, so I am concentrating on *Baldíos* and land restitution.

5.3.1. The *Baldíos* regulation

According to the Colombian Constitution of 1991, the state must promote the access of peasants to the land. It has promulgated that property and other public services need to be made accessible. Other priorities include targeting the raising of income and living standards. To achieve these outcomes, the Colombian government has issued the Act 160 (1994), which established many different procedures for accessing lands.

Baldíos are those lands that are within the territorial limits of the country and do not have any other owner, or those that once allocated were returned to the State's patrimony for legal reasons (Code of Civil Law of 1873; Code of Tax Law of 1912). *Baldíos* may only be acquired by means of titles issued by the state, now represented by the National Agency of Lands (act 160 of 1994; decree 902 of 2017).

According to the representative of the Department of Rural Affairs of the National Attorney Office who was an interviewee during my fieldwork, violating this regulation has led to a special phenomenon: grabbing current *Baldíos* (those that have not been awarded) through law suits before civil judges or by simply just physically taking possession of the land.

Baldíos must be awarded within the limits set by the Family Agricultural Unit. This relates to the tract of land that enables the family to obtain remuneration for its work and to encourage it to acquire some savings (Act 160 of 1994). The land extension depends on fertility and the family's access to infrastructure and proximity to urban centers. Consequently, extensions will vary according to the region. In Altillanura it ranges from 800 to 1300 hectares (Forero, 2015).

Beneficiaries must have a patrimony up to 250 legal minimum monthly wages and cannot be owners of any other rural land in the country (Decree 902 of 2017). It is very important to highlight the prohibition on owning former *Baldíos* if their extensions exceed the maximum allowed limits. Consequently, purchasing contracts or acts used for transferring such lands to juridical persons will be considered illegal if a property that exceeds the Family Agricultural Unit is formed (Act 160 of 1994). These requirements aim to establish targets or subjects of the agrarian reform, excluding those individuals who have enough resources for privately acquiring lands or the those who have owned properties previously. Interviewees working for FAO, the Department of Rural Affairs of the National Attorney Office and the Real State National Office, recognized this institution as the main instrument for countering land ownership concentration in Colombia. Nevertheless, it was highlighted that inequitable concentrations of land may still occur since the prohibition was established

in 1994 by Act 160. Thus, encompassed lands formed by former *Baldíos* meet legal requirements if the titles were issued and registered before 1994.

Currently, the Colombian state lacks an inventory of *Baldíos* as was made clear by the Constitutional Court in 2014, and as acknowledged by INCODER. This irregular situation entails significant difficulties for managing public lands and is a serious obstacle for land access, as long as they are susceptible of illegal appropriation by those who are not subjects of agrarian reform. According to the Colombian Constitutional Court: *“This administrative failure contributes to excessive land concentration as a historic phenomenon, as far as the lack of clarity and certainty on the legal nature of the lands permits their illegal adjudication by means of ordinary judicial procedures, in which it is not taken into consideration the profile of the applicant nor the land extension, therefore omitting the agrarian reform purposes”* (CCC, 2014, T-488, 10.3).

5.3.2 Restitution of deprived lands

In 2011 the CRC issued the Victims and Deprived Lands Restitution Act (Act 1448, 2011), which regulates the procedure for restituting lands to those who were forced to abandon them or were dispossessed. According to this Act, abandonment is the forced displacement that makes exploitation of, and residence on the farm impossible. On the other hand, dispossession involves the arbitrary deprivation of property or possession, rights on private lands or occupation rights on public lands or *Baldíos*. This deprivation could be performed by means of contracts, administrative acts, judicial rules or violence-associated crimes.

Persons who apply through this process must meet some special requirements, namely: proving they have property, possession or occupation rights on the claimed lands; briefly proving that their abandonment or dispossession is due to the armed conflict; and showing that the facts of the matter occurred after 1991 (Act 1448 of 2011).

The claim procedure consists of two different steps, one administrative and the other judicial. The first involves the compilation of proofs by the UAEGRTD and the second step involves

debate or deliberation before a special judge, who has the power to order the restitution of the land, if requirements are met (Act 1448 of 2011).

This chapter presents an analysis of an agrarian reform context and the history of *Baldíos*. It focuses on the original political implementations. In order to counter any perverse usage, and to reduce land-access inequities, various attempts at agrarian reform have been necessary. Nevertheless, these attempts have not been as successful as expected, although they appear to be very progressive legal instruments. A lack of political willingness has been the main reason for this failure.

As previously mentioned, *Baldíos* have been the primary salient factor and relevant consideration, in matters relating to agrarian reform. It is instructive to note that despite the issuing of legal regulations, there is no inventory of *Baldíos*. Thus the breaching of the rules is not accurately monitored and illegal land appropriations are recurrent. Because of this and the history of armed conflict in Colombia, it is clearly necessary to issue special regulations to enable the restitution of lands, to the many often violently dispossessed land holders.

6. ANALYZING THE DATA

For this research various datasets were collected, in order to have a better understanding of the problem.

1. Data from UARIV (2018) on the evolution of forced displacement and its distribution throughout the country from 1985 to 2018. The used dataset contains the number of displaced persons per municipality and department.
2. Data from UPRA (2016a), on the GINI index distribution in Colombia per municipality and department.
3. Data collected straight from the UPRA (2016b), on the distribution of potential *Baldíos* in Colombia based on technical analysis that measures the area of such lands per area and parcels by 2016.
4. Data from the MADR on oil palm (2016a) and sugarcane cultivation (2016b) in Colombia, according to their distribution in terms of area per municipality and department by 2016.
5. Data from the Departamento Administrativo Nacional de Estadística ([DANE] Statistics National Department) on the extension of municipalities (DANE, 2019).
6. Data from the Departamento Administrativo Nacional de Estadística ([DANE] Statistics National Department) on the population of municipalities (DANE, 2018).

6.1. Methodology

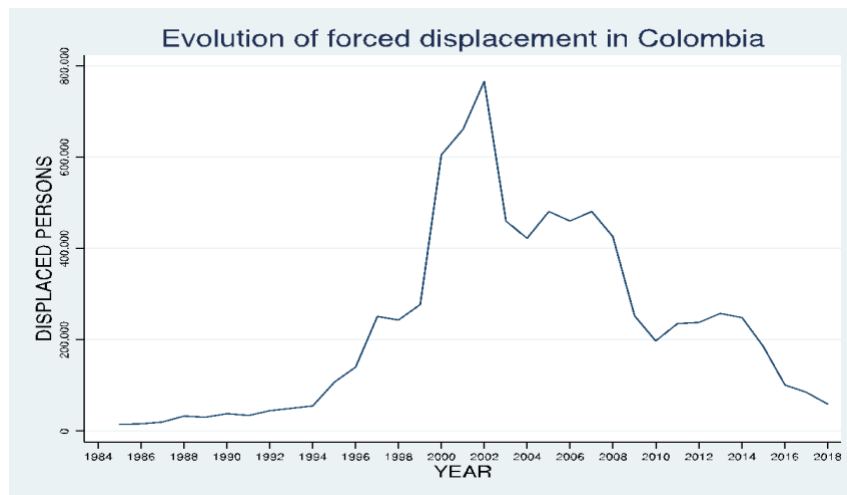
This research addresses the evolution of phenomena during relevant periods of time and their distribution in the Colombian territory.

6.1.1. Analyzing the time

The first step consisted of consolidating basic information on the evolution of forced displacement in Colombia and oil palm and sugarcane cultivations.

6.1.1.1 Evolution of forced displacement

Once consolidated the information from the UARIV, the following chart was plotted after confirming information from UARIV:

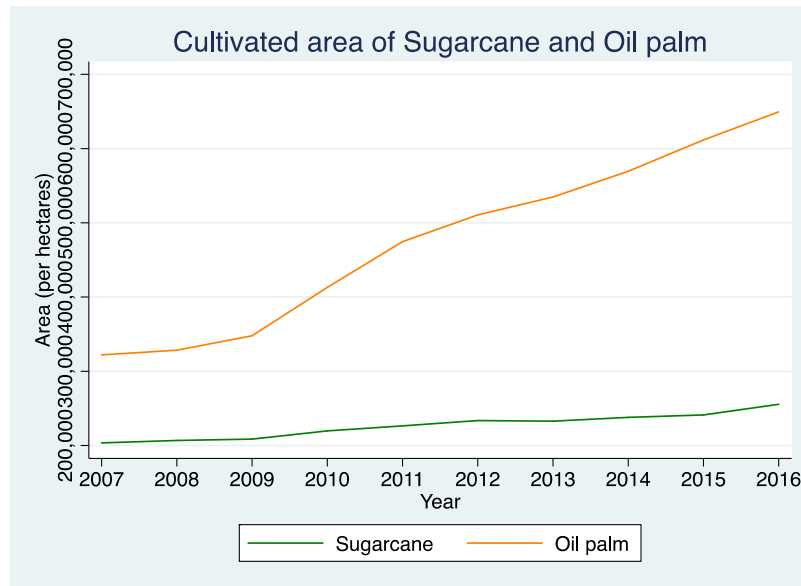


Graph 1. Evolution of forced displacement in Colombia. Own elaboration according to UARIV (2016).

The graph shows an interesting evolution, whose peak is in 2002, when the number of displaced persons reached 765.738. By 2018 7.990.655 have been displaced according to the source.

6.1.1.2. Evolution of sugarcane and oil palm.

The cultivation of these two crops has been previously addressed. According to MADR(2016a) the evolution of such cultivations may be depicted, from 2007 to 2016 as shown in the graph below



Graph 2. Evolution of sugarcane cultivation in Colombia. Own elaboration according to MADR (2016a;b).

The growth rate of oil palm cultivation is noteworthy in comparison to sugarcane. Whilst the former has increased the cultivation area from 322.030 to 649.552 hectares (growth rate = 101,7%), the latter has evolved steadily during the same period of time, starting from 203.594 rising to 255.612 hectares (growth rate = 25.5%). From 2007 to 2016 areas of cultivated oil palm increased roughly 4 times more than the areas of sugarcane.

6.2. Analyzing the space

The datasets were carefully organized, matching the 32 departments and the 1122 municipalities of Colombia, using 5 relevant variables: Forced displacement (number of persons who were forcibly displaced), GINI index, *Baldíos* area, area of cultivated oil palm and area of cultivated sugarcane.

A summary of the dataset is set out below

Variable	Obs	Mean	Std. Dev.	Min	Max
GINI	1,078	.7230878	.093411	.1291	.991
FDISPLACEM	1,117	6874.934	14277.47	3	184857
BALDÍOSAREA	1,062	25933.51	112493.4	.36	2103949
PARCELS	1,062	762.6695	1127.254	1	20579
OILPALM	1,122	424.123	2890.334	0	44550
SUGARCANE	1,122	222.4822	1747.549	0	37134

Table 4. Summary. Own elaboration using data from UPRA (2016a;b), MADR(2016a,b) and UARIV(2018).

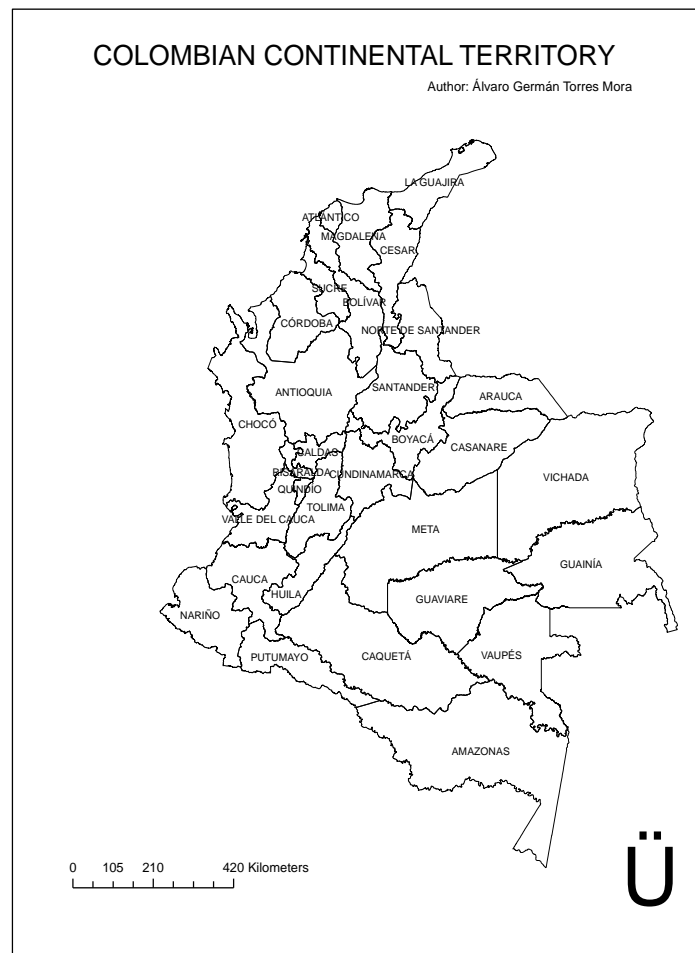
The number of observations is not equal for all variables, since there is missing data in the reports of the authorities. For example, in the case of GINI, there are many municipalities wherein it is impossible to collect information due to lack of information in the cadaster, especially in relation to remote zones of Colombia.

UPRA consolidated a dataset of potential *Baldíos* using different sources, such as the national cadaster and datasets from INCODER and from the Real State National Office. Information from Chocó, Guainía, Vaupés and Amazonas, wherein jungle predominates is completely missing.

MADR(2016a;b) reports on the first 35 municipalities that grow sugarcane and oil palm. Additionally it reports the category “others”, which includes details of minor production. However, MADR does not specify their names.

This thesis includes maps based on the datasets. These maps might be useful for better understanding the distribution of the variables in each department of Colombia, particularly in Meta and Vichada, where Altillanura is located.

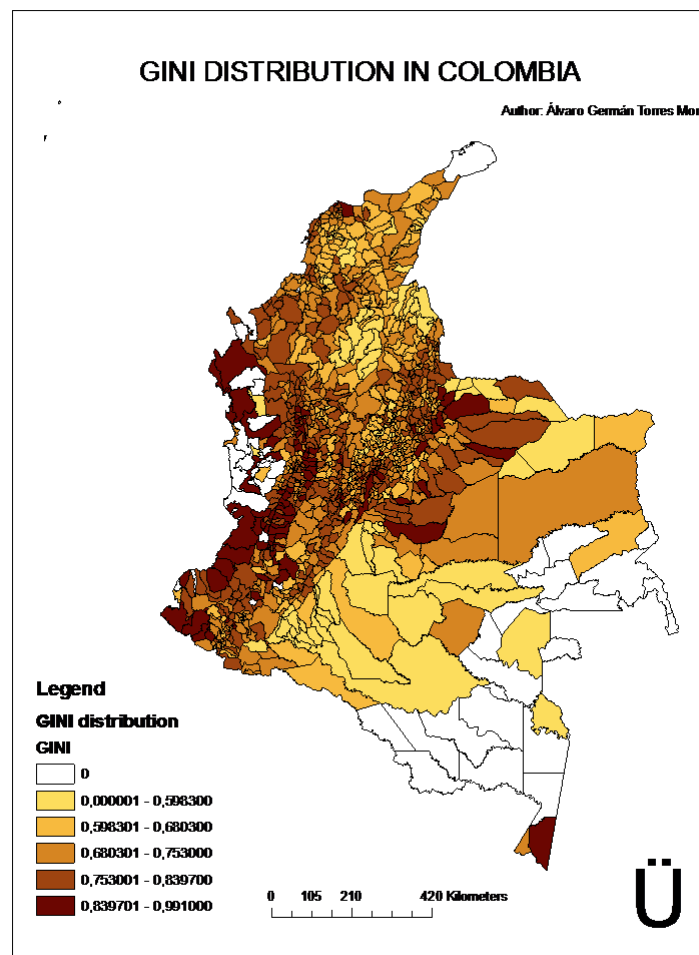
The map below is useful to understand more complex information that will be displayed later.



Map 1. Colombian continental territory. Own elaboration using data from UPRA (2016^a)

6.2.1. GINI distribution

UPRA (2016a) carried out a study for measuring GINI in Colombia using the national cadaster as main source. The cadaster contains information on the number of plots and properties.

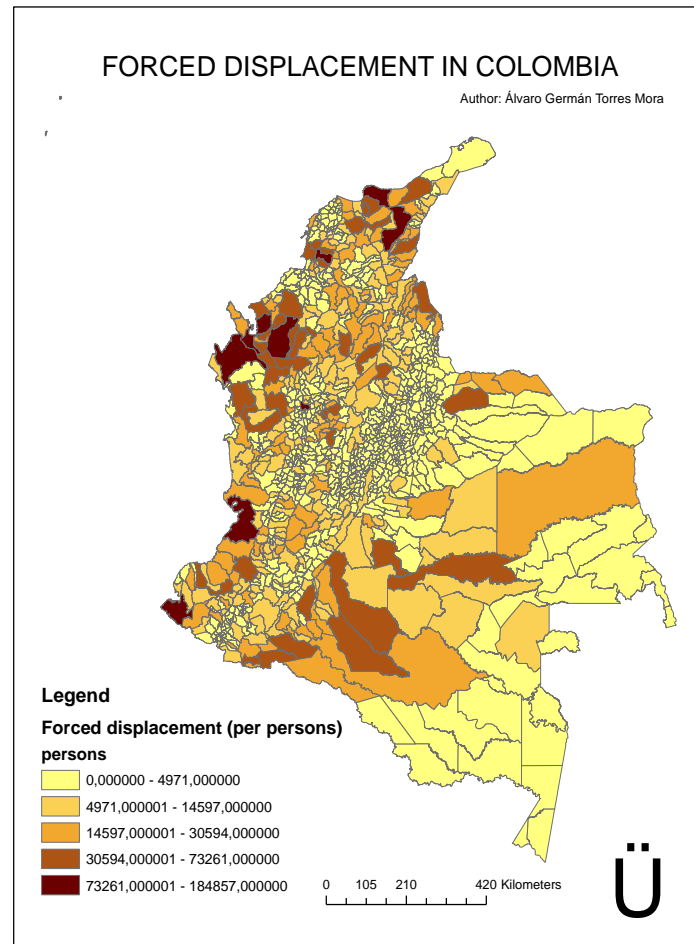


Map 2. Distribution of GINI INDEX. Own elaboration using data from UPRA (2016a). In this case white slots equal missing data.

The municipalities in the Amazonas (a region that includes Guaviare, Caquetá, Vaupés, Guainía, Putumayo and Amazonas departments) have lower marks. Some of them have marks below 0,5, for example Mitú in Vaupés, Solano, Curillo and Cartagena del Chairá in Caquetá and El Retorno and Calamar in Guaviare. According to the map, higher concentrations are found in the Pacific coast, for example Bahía Solano, Bojayá, and Quibdó in Chocó; Guapí, López and Timbiquí in Cauca; Mosquera, Tumaco and Ricaurte in Nariño, and Buenaventura in Valle del Cauca department. In this department municipalities that grow Sugarcane such as Candelaria, Palmira, Yumbo, El Cerrito and Zarzal have marks above 0,9. Puerto López is the municipality with the higher GINI index in Altillanura (0,77). Overall, Meta department looks darker since its GINI is equal to 0,8716.

6.2.2. Forced displacement in Colombia

UARIV (2018) collected data from most of the municipalities of Colombia on various crimes against the population, including murdering, kidnapping, forced displacement and others. The following map geospatializes information extracted from the source.



Map 3. Distribution of forced displacement in Colombia by 2018. Own elaboration using data from UARIV (2018).

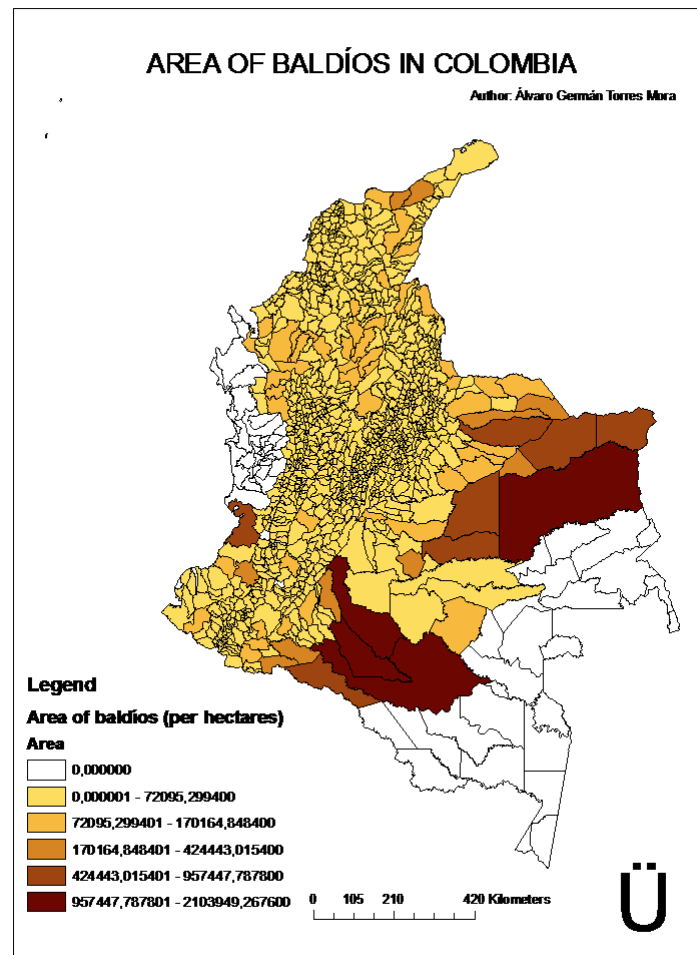
The higher marks are observed in Antioquia (for example in Turbo, Apartadó and Medellín) and some municipalities in the Caribbean coast (for example in Carmen the Bolívar, Santa Marta and Tierraalta). Darker colors are also observed in the agrarian frontiers, for example in Meta, Caquetá, Guaviare y Putumayo. Some municipalities in the Altillanura region such as Puerto López, Puerto Gaitán and Mapiripán have marks above 10.000 displaced persons.

7.7762.874 persons have been forcibly displaced in Colombia. Forced displacement in Meta equals 229.822 persons.

6.2.3. Distribution of *Baldíos* in Colombia

Since the national cadaster in Colombia is still under construction, some departments do not provide sufficient information for determining the number of *Baldíos*. As previously stated, the Colombian state lacks an inventory of such lands. This is partly due to problems that make it impossible to georeference remote locations. Therefore, in order to perform an objective analysis, only departments with sufficient data are analyzed. San Andrés, Providencia and Santa Catalina Islands and remote areas with a predominance of jungle are not included: Amazonas, Guainía, Vaupés and Chocó. Although, it is very important to take into consideration that these departments (except the islands) are likely to have large extensions of *baldíos*, since they have recently undergone settlement. This limitation of the dataset must be considered for further studies.

Below is a map made in accordance with data provided by UPRA (2016b).



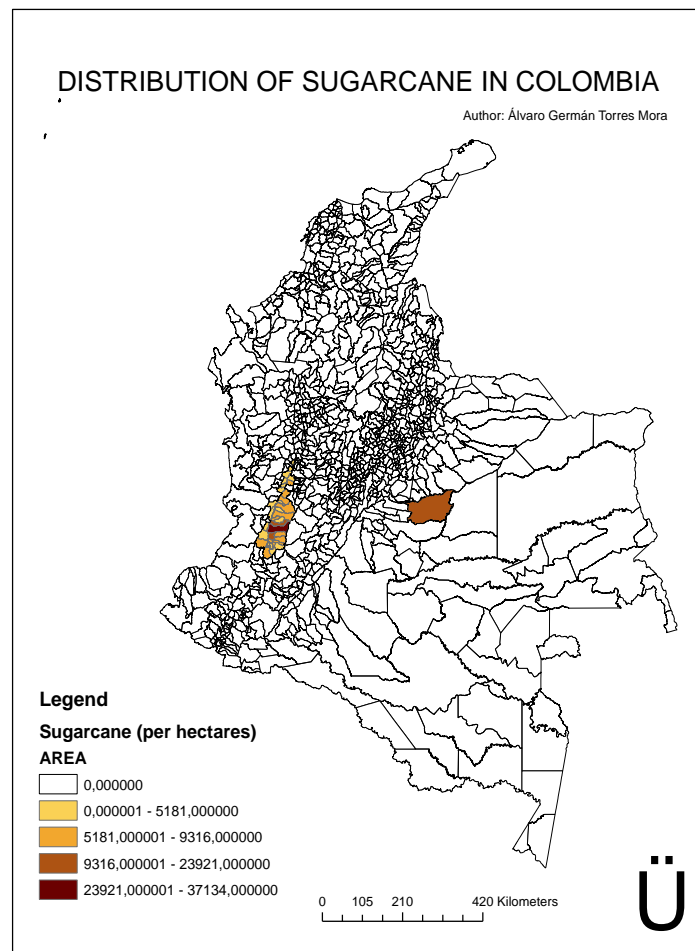
Map 4. Distribution of *Baldíos* areas in Colombia by 2016. Own elaboration with data provided by UPRA (2016b). In this case white slots equal missing data.

Departments with larger extensions of *Baldíos* are the ones wherein the agricultural frontiers are. Colombian colonization started from the Caribbean coast and has been expanding mainly along the Andean chain (Santander, Boyacá, Cundinamarca, Tolima, Huila, and others). It seems that departments between the Andes mountains and the Amazonas region have the larger extensions of *Baldíos*: Caquetá: 5.040.157 hectares; Vichada: 3.279.135 hectares, and Meta: 2.096.452 hectares. This means that somehow the pattern is similar to the previous map. A relation between the area of *Baldíos* and forced displacement could be further studied in the south of Colombia.

Some municipalities in the Altiplanura region rank among the ones that have larger extensions of *Baldíos*, such as Cumaribo, La Primavera and Puerto Carreño in Vichada; and Puerto Gaitán, Mapiripán in Meta. All of them have more than 600.000 hectares of *Baldíos*.

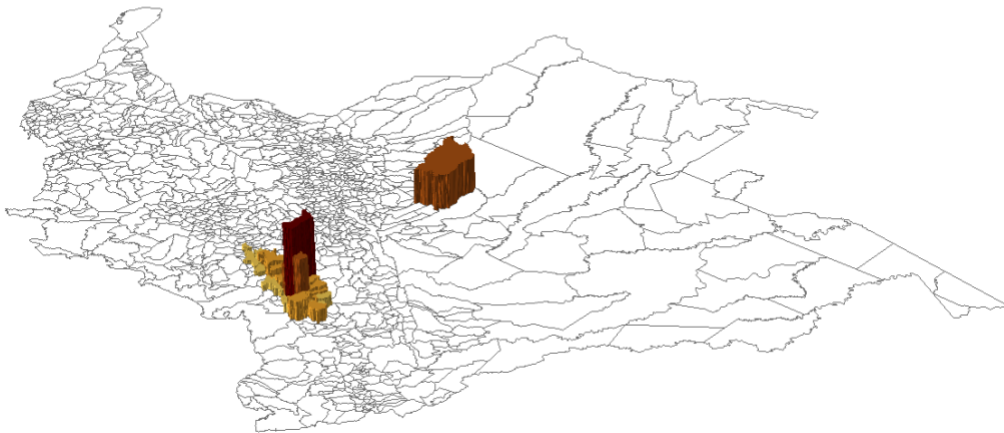
6.2.4 Distribution of sugarcane cultivation.

The map below depicts the 35 major producer municipalities of sugarcane in Colombia.



Map 5. Distribution of Sugar cane cultivation in Colombia by 2016, per municipalities. Own elaboration with data from MADR (2016a).

The graph in 3D is useful in this case.

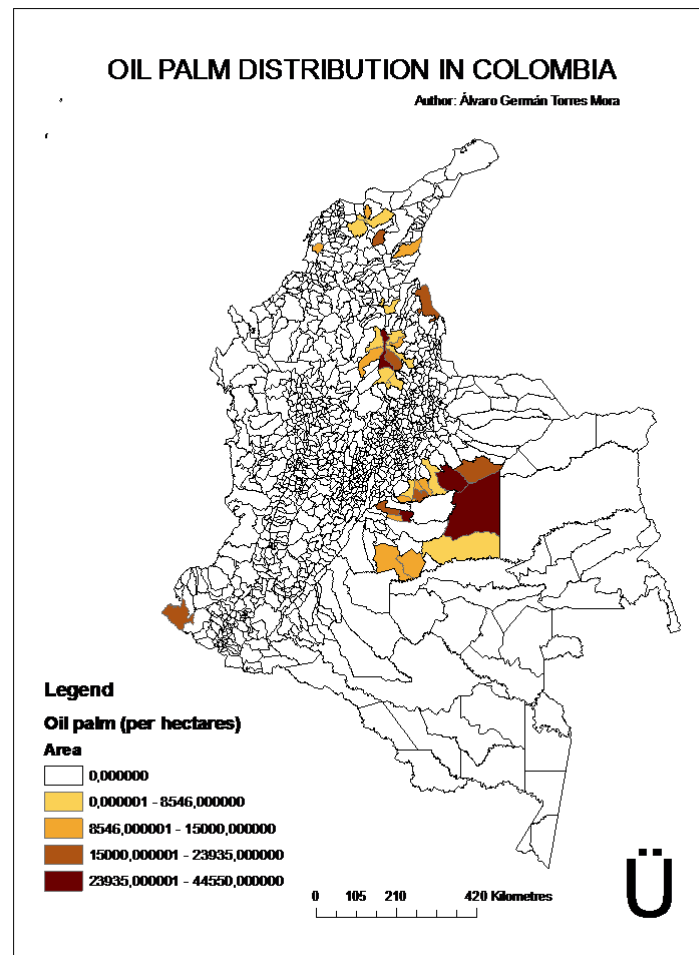


Graph 3. Distribution of Sugar cane cultivation in Colombia by 2016, per municipalities. Own elaboration with data from MADR (2016a).

As expected most of municipalities that grow Sugarcane are in Valle del Cauca, a department that has very high GINI marks, Cauca and Meta. Puerto López, in Meta department is the third largest cultivator in Colombia (17.408 cultivated hectares).

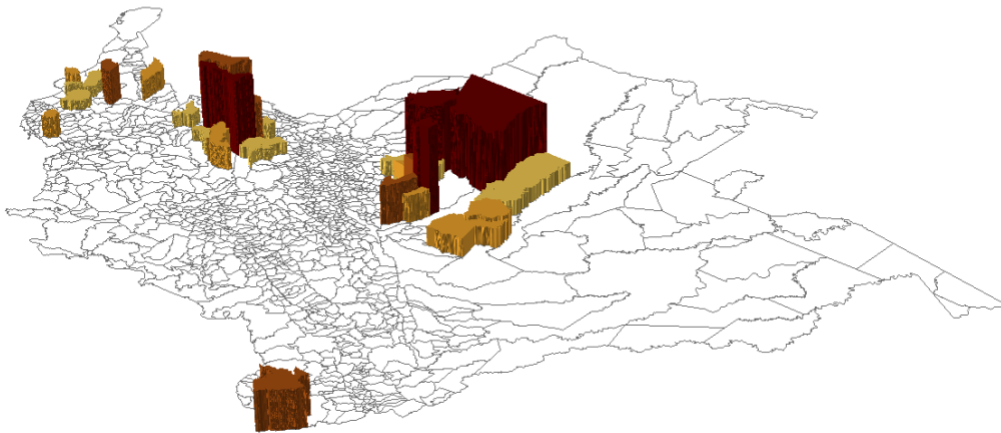
6.2.5. Distribution of oil palm cultivations

The map depicts the major 35 producer municipalities of oil palm in Colombia.



Map 6. Distribution of oil palm in Colombia by 2016, per municipalities. Own elaboration with data from MADR (2016b).

A 3D graph is useful in this case:



Graph 4. Distribution of sugarcane cultivation in Colombia by 2016, per municipalities. Own elaboration with data from MADR (2016a).

The map and the graph show that, by far, the largest cultivator of oil palm is Meta (221.090 hectares). There is no available data on the cultivation in Vichada department, even though the official data indicates 8.009 hectares. The dataset is limited since it counts 134.848 hectares as “others” without specifically reporting where they are. San Carlos de Guaroa, is the municipality that has the larger extension of oil palm cultivation (44.550 hectares) and Puerto Gaitan is close behind, ranking fourth (33.000 hectares).

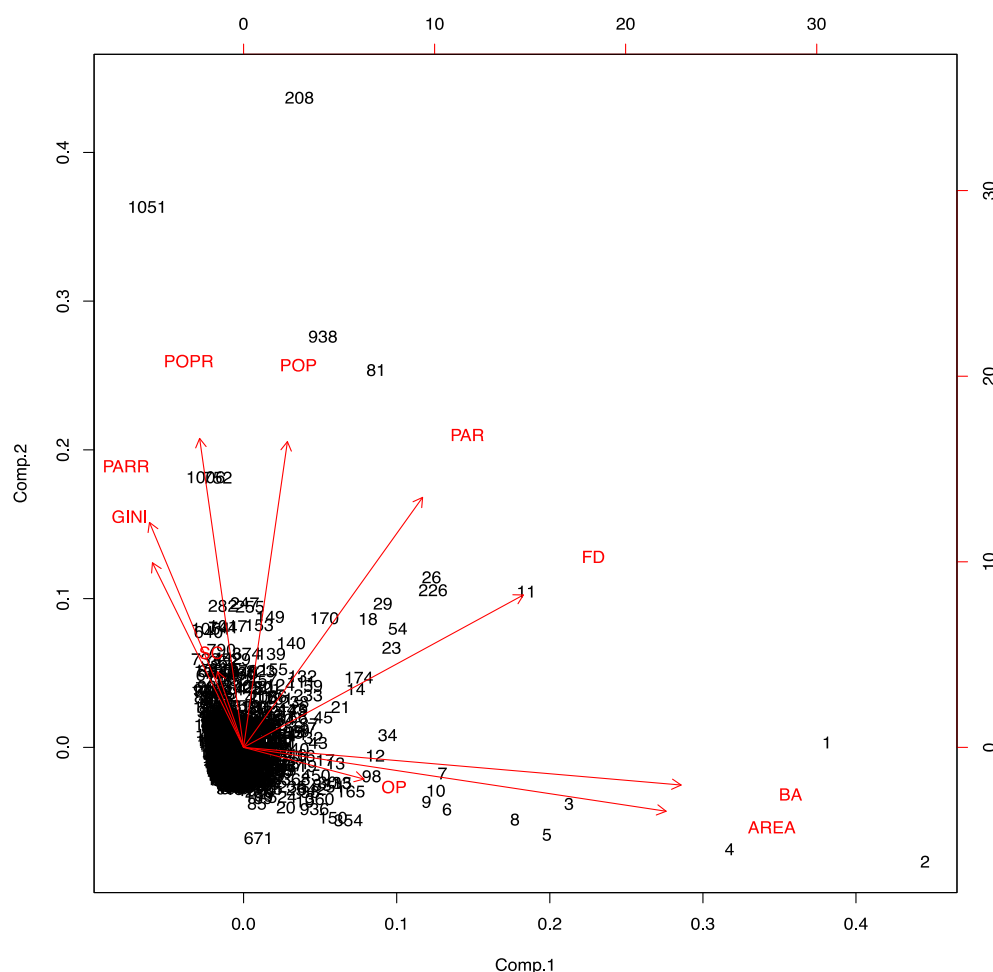
6.3. Multivariate analysis.

Given the variables that this thesis includes, Component Analysis is useful to understand possible associations.

6.3.1. Component Analysis

This methodology is useful for transforming quantitative variables into principal components through linear combinations in order to facilitate the interpretation of the dataset (Díaz, 2002; UPRA, 2016A)

For exploring the dataset and for identifying possible associations between variables, a Component Analysis was run using the R program. At the municipal level a dataset that consists of 1056 observations is studied. Only those municipalities that meet all the variables are included. Municipalities in San Andrés, Providencia and Santa Catalina Islands and remote departments wherein jungles predominate are not included: Amazonas, Guainía, Vaupés and Chocó, since information on the area of *Baldíos* is missing.



Legend: AREA: Municipality area; BA: *Baldíos* area; GINI: GINI; FD: Forced displacement; OP: oil palm area; PAR: *Baldíos* parcels; PARR: PAR/AREA; POP: Population; POPR: POP/AREA; SC: Sugarcane area

Graph 5. Component Analysis. Own elaboration using data from UARIV (2018), UPRA (2016a;b), MADR (2016a;b) and DANE (2018;2019).

1. The component analysis groups, the sugarcane area and the GINI (their angle is smaller than others) along the component 2. In this case oil palm is close to the *Baldíos* area along

the component one. Therefore, zones with larger extensions of *Baldíos* could have larger extensions of oil palm cultivations. This combination is also influencing forced displacement along the component 1. Finally, It seems that those zones where *baldíos* and oil palm predominate are less likely to have high GINI indexes.

Component analysis, though does not prove the associations, could help to analyze the variables from two starting points. 1. Those zones that cultivate larger extensions of sugarcane seem to have higher GINI levels. 2. Those zones that have larger extensions of oil palm cultivations seem to have larger extensions of *Baldíos*.

6.4. Inferential Statistics

Due to the previous outcomes it is worth comparing media and to perform statistical tests in order to determine the relation between variables. For this analysis, a division between municipalities and departments that grow either oil palm or sugarcane is necessary, using a dummy variable: 1= cultivated area and 0 = not cultivated area.

6.4.1. Association between GINI and sugarcane cultivations

The Z-test for comparing means gives the following results:

Two-sample z test

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	1,022	.7182297	.0312806	1	.656921	.7795385
1	34	.8419235	.1714986	1	.5057925	1.178055
diff		-.1236938	.174328		-.4653703	.2179827

diff = mean(0) - mean(1)

z = -0.7095

Ho: diff = 0

Ha: diff < 0

Pr(Z < z) = 0.2390

Ha: diff != 0

Pr(|Z| > |z|) = 0.4780

Ha: diff > 0

Pr(Z > z) = 0.7610

Table 5. Z-test Statistical hypothesis testing. Own elaboration using data from MADR (2016a) and UPRA (2016a).

According to the test, those municipalities that grow sugarcane have a GINI mean equal to 0.841, whilst those that do not grow such crop have a GINI mean equal to 0.718. The test assumes no difference of mean is termed the null hypothesis whilst the term alternative hypothesis entails a difference. In this case the $H_a > 0,05$, so the alternative hypothesis is not accepted, though the difference of means.

Running a T-test for a smaller sample that consists of the departments is also useful:

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	26	.7463808	.0227403	.1159534	.6995462	.7932154
1	6	.8473333	.0165956	.0406507	.804673	.8899937
combined	32	.7653094	.0199312	.112748	.7246594	.8059594
diff		-.1009526	.0485265		-.2000568	-.0018483

diff = mean(0) - mean(1) t = -2.0804
 Ho: diff = 0 degrees of freedom = 30

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.0231 Pr(|T| > |t|) = 0.0461 Pr(T > t) = 0.9769

Table 6. T-test Statistical hypothesis testing. Own elaboration using data from MADR (2016a) and UPR (2016a).

In this case, those departments that grow sugarcane have GINI indexes averages equal to 0.847, whereas those that do not cultivate it have averages equal to 0.746. Here the alternative hypothesis is $H_a < 0.05$ and therefore it must be accepted that those departments that grow sugarcane, have higher GINI indexes.

6.4.2. Association between forced displacement and oil palm cultivations

The Z-test gives the following outcomes

Two-sample z test

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	1,021	6379.445	.0312959	1	6379.383	6379.506
1	35	19634.31	.1690309	1	19633.98	19634.65
diff		-13254.87	.1719036		-13255.21	-13254.53

diff = mean(0) - mean(1)

z = **-7.7e+04**

Ho: diff = 0

Ha: diff < 0

Ha: diff != 0

Ha: diff > 0

Pr(Z < z) = **0.0000**Pr(|Z| > |z|) = **0.0000**Pr(Z > z) = **1.0000**

Table 7. Z-test Statistical hypothesis testing. Own elaboration using data from MADR (2016b) and UARIV (2018).

The null hypothesis assumes that there is no difference in the means. The alternative hypothesis assumes a difference. In this case the alternative hypothesis $H_A < 0.05$ and therefore must be accepted. Those municipalities that grow oil palm have considerably more forcibly displaced persons. The mean of displaced persons is 19.634,31 in municipalities that grow oil palm, whereas it is 6.379,33 in those that do not grow it.

6.4.3. Association between *Baldíos* and oil palm cultivations

The Z-test for comparing means gives the following results:

Two-sample z test

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	1,021	24365.8	.0312959	1	24365.74	24365.86
1	35	74550.51	.1690309	1	74550.18	74550.84
diff		-50184.71	.1719036		-50185.05	-50184.37

diff = mean(0) - mean(1)

z = **-2.9e+05**

Ho: diff = 0

Ha: diff < 0

Ha: diff != 0

Ha: diff > 0

Pr(Z < z) = **0.0000**Pr(|Z| > |z|) = **0.0000**Pr(Z > z) = **1.0000**

Table 8. Z-test Statistical hypothesis testing. Own elaboration using data from MADR (2016b) and UPR (2016b).

The null hypothesis assumes that there is no difference in the means. The alternative hypothesis assumes a difference. In this case the alternative hypothesis $H_A < 0.05$ and therefore it must be accepted. Those municipalities that grow oil palm have considerably larger extensions of *Baldíos*. Such lands have a mean equal to 74.550,51 in municipalities that grow oil palm, whereas it is 24.365,8 in those that do not grow it.

6.5. Connecting the dots

The datasets and maps are useful for understanding the associations between forced displacement, GINI, *Baldíos*, oil palm, and sugarcane crops.

The spatial analysis suggested that some municipalities of Valle del Cauca, which mostly cultivate sugarcane have higher levels of GINI index. This analysis also suggested an association between the area of the *Baldíos* and forced displacement, since some departments in the agrarian frontier, such as Caquetá, Putumayo, Meta and Vichada have darker colors in both maps.

The Component analysis suggests the same previous associations. It associates GINI and sugarcane cultivations. Such association indicates that sugarcane is grown in zones where ownership structures are clear. On the other hand, the component analysis groups *Baldíos* and oil palm. This suggests that oil palm is grown in regions where ownership structures are unclear. Note that *Baldíos* are public lands. This linear combination also influences forced displacement.

The data was further explored through an inferential statistical analysis. Those departments that grow sugarcane have statistically significant higher levels of GINI than those that do not grow it. On the other hand, those municipalities that cultivate oil palm have statistically significant higher levels of forced displacement and greater presence of *Baldíos* than those that do not cultivate it. This statistical analysis supports the previous suggested associations. In other words, there is a clear association between GINI and sugarcane on one hand, and between oil palm, forced displacement and areas of *Baldíos*, on the other hand.

Meta Department almost arrives at high levels in all the variables and is very likely to be one of the predictors of successful associations. Its forced displacement is moderate: 229.822 persons; its GINI index is very high: 0,8716; its *Baldíos* areas are very high: 2.096.452 hectares; its sugarcane area is high: 17.408; and its oil palm area is also high: 221.090, the largest in the country.

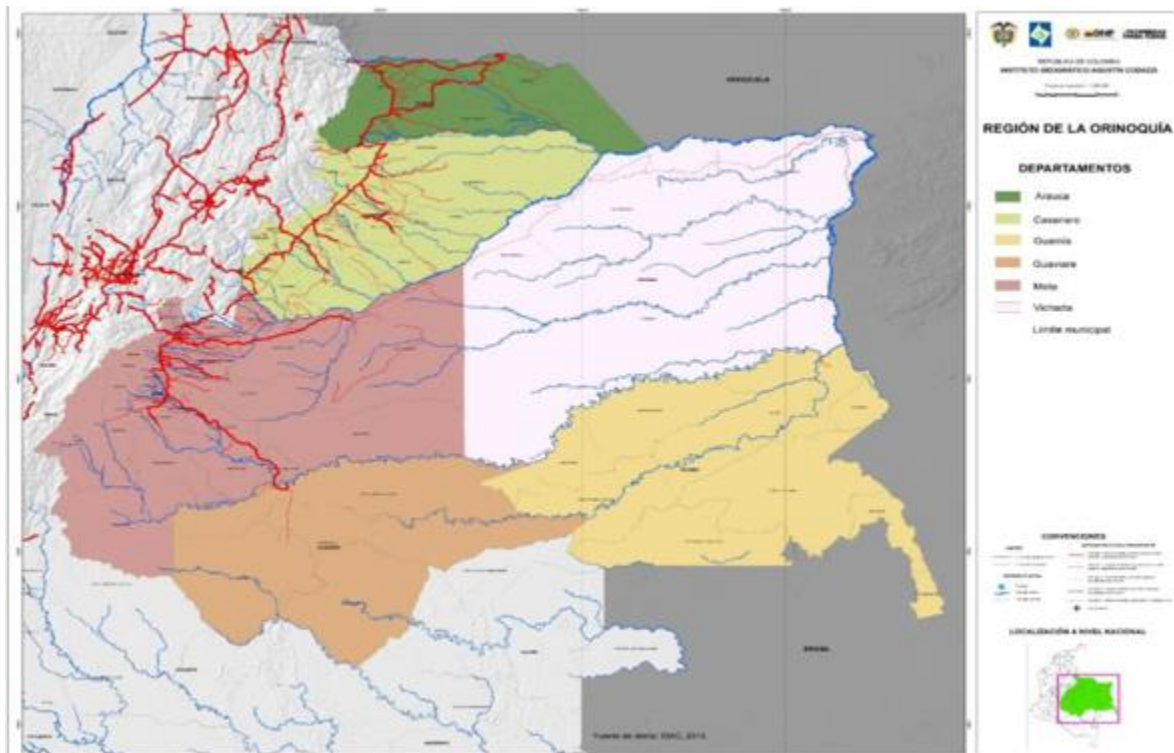
Two municipalities in Meta concentrate large extensions of oil palm and sugarcane cultivation. Puerto Gaitán has the fourth largest extension of oil palm cultivations (33.000 hectares) in Colombia. On the other hand, Puerto López ranks third in terms of sugarcane cultivation (17.408 hectares). These municipalities are part of the Altillanura subregion that will be further studied.

7. THE ORINOQUÍA REGION AND ALTILLANURA

In this chapter Orinoquia region is analyzed, emphasizing the Altillanura sub-region, considering its relevance for the study on unequal concentrations of land control in Colombia, especially with regard to the high number of *Baldíos* and biofuels usage in such a conflictive context. The analysis involves studying the Zonas de Interés para el Desarrollo Económico y Social ([ZIDRES] Areas of Interest for Economic and Social Rural Development), whose importance lies in the potential use of its *Baldíos* by large investors. The analysis delves into the economic model carried in Altillanura, and alternative models, including family farming.

7.1. The Orinoquía region

The Orinoquía is an extensive natural region shared by Venezuela and Colombia. Its total area is 991.587 km², of which 347.165 km² are in Colombia, equivalent to 30.4% of the national territory (OXFAM, 2013).



Map 7. Orinoquía region. Source: Departamento Nacional de Planeación ([DNP], National Planning Department, 2014, CONPES 3797).

1.7 million people live in the Orinoquía region that is 3.7 % of the national population. 6 % of them self-recognize as members of a minority ethnic group. From 1990 to 2011 the Gross Domestic Product participation in the region rose from 5.5 % to 8.8%, mainly due to oil exploitation and agroindustrial exploitation: rice, soy, sorghum and oil palm. Cattle is also important in the area (DNP, 2014, CONPES 3797).

The population is found though predominantly concentrated in the Piedmont (80%). The region is well connected with others through a network of main roads such as the highways Bogotá – Villavicencio; Pamplona – Saravena; Sogamoso – Aguazul – Yopal and others. Nevertheless, the tertiary network is not well developed, since it is formed by incipient roads in deteriorated condition. Poor road conditions are considered the main obstacle for developing economic activities because of high transportation costs and the associated increased times needed for trading, price-lowering then and competitiveness (DNP, 2014, CONPES 3797).

The region is one of the largest reserves for expanding the agrarian frontier in Colombia. Its ecosystem is fragile, given the presence of obstacles such as: a long dry season, high toxicity of aluminum, high phosphor absorption, low humidity retention capacity, high erosion susceptibility and recurrent plagues and diseases. All of these factors lead to low fertility (Amézquita, Rao, Rivera, Corrales and Bernal, 2013).

In Colombia, Orinoquía is made up by Arauca, Meta, Vichada and Casanare departments (some authors also include parts of Guainía and Guaviare). The area is mostly flat and low, ranging from 150 meters to 250 meters above the sea level (OXFAM, 2013).

Agricultural activity was the pre-eminent factor in the economy of the Orinoquía until the 1980's. At the end of the 1990's, Casanare and Arauca were transformed into major oil producing departments. Orinoquía has 7.2% of the country's agricultural land, of which merely 2.2% is used. Only 32 % of areas suitable for agriculture are cultivated and most of it is used in livestock farming. This inadequate use of land is due, among other things, to

violence; to the perception of the land as an instrument of territorial power; and also to deficiencies and inequalities in the distribution of resources (OXFAM, 2013).

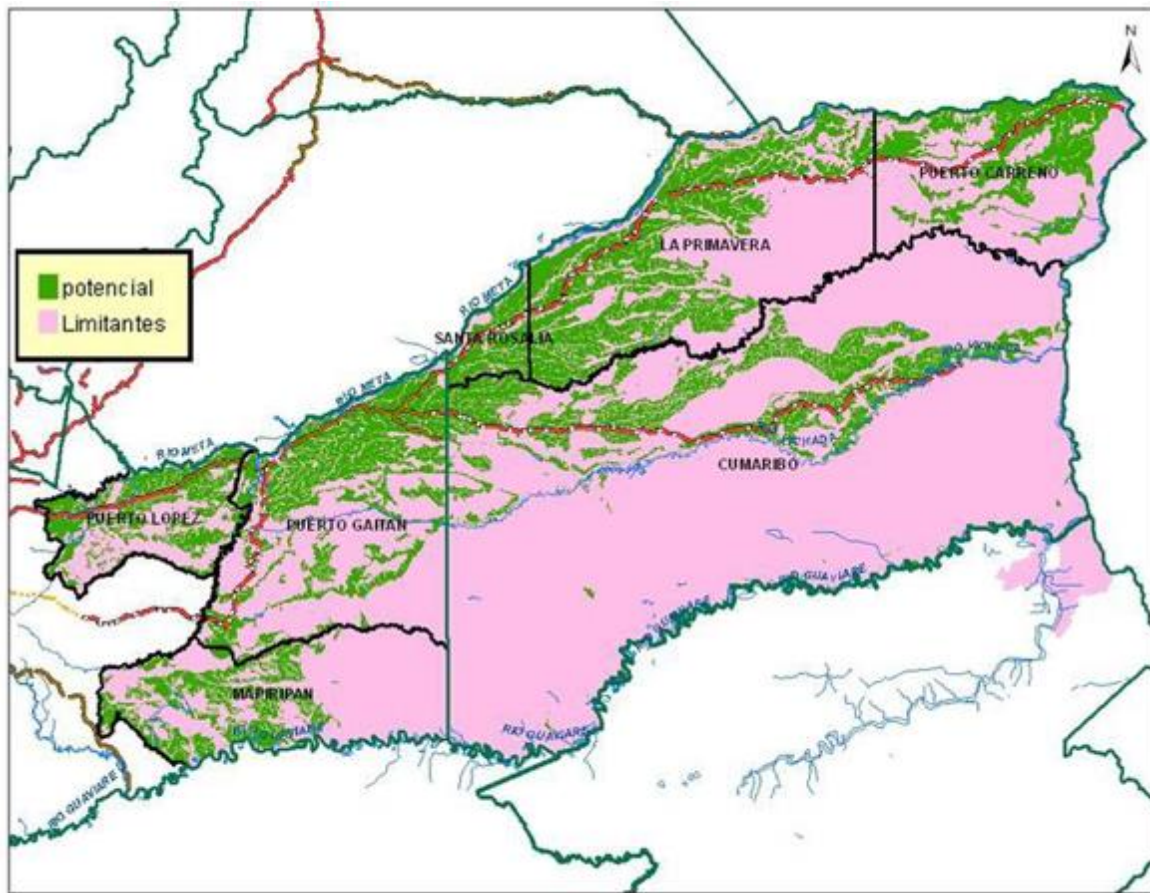
Rapid expansion of monocultures for producing grains and pastures, led to productivity loss and soil degradation. The predominant crops are rice and oil palm, which both contribute to 30 % of the national production (Rivera, Amézquita, Bernal and Rao, 2013). The region is characterized according to its tendency to flood: the upland Altillanura and the flooded Orinoquía.

Given the previously mentioned regulations on *Baldíos* and to encourage investments in agro-industrial projects, some Colombian administrations, particularly the one led by the former president Álvaro Uribe Vélez, attempted to reform the Family Agricultural Unit with a view to enlarging it. In the case of the Orinoquía region, land adjudications increased, in order to form farms larger than 40.000 hectares and to benefit private investors with public lands concessions (Salinas, 2012).

Orinoquía region has the highest inequitable concentrations of land in Colombia. By 2000 only 33% of the lands were owned by 95% of the population in Arauca department, whereas in Meta and Casanare the same percentage of the population, owned only 38% and 37.6% of the land, respectively. These figures contrast markedly with other regions' averages. For example, in the Andean region, 95% of population owns 49.4% of lands. In the Pacific and Caribbean coasts the same percentage of population owns 45.675 and 63% of the land, respectively (Rodríguez and Cepeda, 2011).

7.2. The Altillanura subregion

Altillanura is a sub-region of Orinoquía, spread over 13.5 million hectares from Puerto Lopez municipality to the east side of Meta river. It is made up by seven municipalities: La Primavera, Cumaribo, Puerto Carreño and Santa Rosalía in Vichada and Puerto López, Puerto Gaitán and Mapiripán in Meta. Derived in this zone is most of the oil in the Orinoquía region. Here also is where the majority of agroindustrial initiatives are concentrated (DNP, 2014, CONPES 3797).



Map 8. Altillanura subregion. DNP, National Planning Department, 2014, CONPES 3797.

Colombia has 21.8 million potentially cultivatable hectares, of which 5.5% (1.2 million hectares) are located in Altillanura. Nevertheless, only 80.167 hectares are actually cultivated. According to estimations, a total of 2.8 million hectares are usable for agriculture, forestry and cattle raising in this sub-region (DNP, 2014, CONPES 3797).

Savannas are predominant in Altillanura, with some gallery forests surrounding water bodies. Its soils are highly acidic (ph 3.8 – 5.0), with a percentage of aluminum above 80 % and poor fertility that is due to a low availability of plant nutrients (Rivas, Hoyos, Amézquita and Molina, 2014).

Large scale cattle raising is a pervasive activity. On the other hand, agriculture is limited by fertility conditions, poor infrastructure and lack of technical support for production. Cultivated areas are occupied by 27.250 hectares of oil palm and 11.939 hectares of rubber.

There are also important cultivations of soy, corn, yucca and sugarcane. Cultivated areas are located mainly in Puerto Gaitán and Puerto López in Meta, whose percentage reaches 82% of the total cultivated area in Altillanura (DNP, 2014, CONPES 3797).

By 2016 the region had 48.569 hectares occupied by oil palm and 17.408 by sugarcane. The three municipalities of Altillanura located in Meta department have either oil palm or sugarcane cultivations (MADR, 2016a;b). However, what is very suggestive is that they do not overlap: there are no cultivations of oil palm in Puerto López nor cultivations of sugarcane either in Puerto Gaitán or in Mapiripán.

From 1990 to 2005 the forested area of Altillanura decreased by 1.3 %, which is the second highest rate in the country, wherein the average is 0.4 %. Among Altillanura's forests there are at the least 19 areas which could be included in the Colombian National System of Protected Areas. However only 4 of them are actually included; 2 are underrepresented and the rest completely omitted (DNP, 2014, CONPES 3797).

Moreover, the region is characterized by low productivity per hectare and high production costs, which according to official documents result in low competitiveness. All this is due to poor scale economies, high prices of supplies and the lack of technology (DNP, 2014, CONPES 3797).

Given Altillanura's advantages, it is easy to see why there has been a considerable increase in the attention it has been receiving. For example, from 2005 to 2010, at least 250.000 hectares have been sold. Additionally, the allocation of *Baldíos* has also increased; in fact, just in Vichada alone there has been 3,500 land grants in that time frame (Salinas, 2012).

Simultaneously, the government of Colombia has been supportive in this scenario through implementing the Brazilian El Cerrado model. The possibility of drilling oil in the area has also brought considerable focus to this region in recent years (Salinas, 2012).

7.2.1. Data on the Altillanura

Using the same data previously studied, this dataset is consolidated:

DEPARTMENT	MUNICIPALITY	GINI	DISPLACED PERSONS	BALDIOS (hectares)	OIL PALM AREA (hectares)	SUGARCANE AREA (hectares)
META	MAPIRIPÁN	0,7185	24.086	615.716	7.560	0
META	PUERTO GAITÁN	0,7172	8.145	623.034	33.000	0
META	PUERTO LÓPEZ	0,7751	5.012	56.256	0	17.408
VICHADA	CUMARIBO	0,735	2.810	1.506.131	ND	0
VICHADA	LA PRIMAVERA	0,508	2.602	957.448	ND	0
VICHADA	PUERTO CARREÑO	0,623	881	957.448	ND	0
VICHADA	SANTA ROSALÍA	0,489	17.591	198.752	ND	0
TOTAL			61.127	4.914.784	40.560	17.408

Table 7. Altillanura dataset. Own elaboration using data from UARIV (2018), MADR (2016a;b) and UPRA (2016a;b).

As commented in a previous section of this thesis, there are 8009 hectares of oil palm cultivated in Vichada, though MADR does not report which municipalities where they are.

These summaries are noteworthy:

Variable	Obs	Mean	Std. Dev.	Min	Max
GINI	7	.6522571	.1146454	.489	.7751
Fdisplacem	7	8732.429	8781.565	881	24086
Baldíos	7	702112.1	493467	56256	1506131
Oilpalm	7	5794.286	12323	0	33000
Sugarcane	7	2486.857	6579.606	0	17408

Table 8. Summaries of variables. Own elaboration using data from UARIV (2018), MADR (2016a;b) AND UPRA (2016a;b).

The GINI index in Altillanura subregion is lower (0.65) than the Colombian average (0.72), due to the relevant presence of *Baldíos* areas in Vichada (such lands are public). Although, it is higher than the average in Puerto López, where sugarcane is cultivated, and the lowest extensions of *Baldíos* are observed. This confirms that sugarcane could raises the GINI index, since it fosters land ownership. The subregion has 4.914.784 hectares of *Baldíos* out of 27.541.378 (17845%). As previously mentioned, Puerto Gaitán is the fourth largest cultivator of oil palm in the country (33.000 hectares) and Puerto López is the third largest cultivator of sugarcane in Colombia (17.408 hectares). The number of displaced persons in Mapiripán

is outstanding (24.086; mean is 6.874.94), a fact that will be further commented upon. There is no available data for sugarcane or oil palm areas of cultivation in Vichada's municipalities.

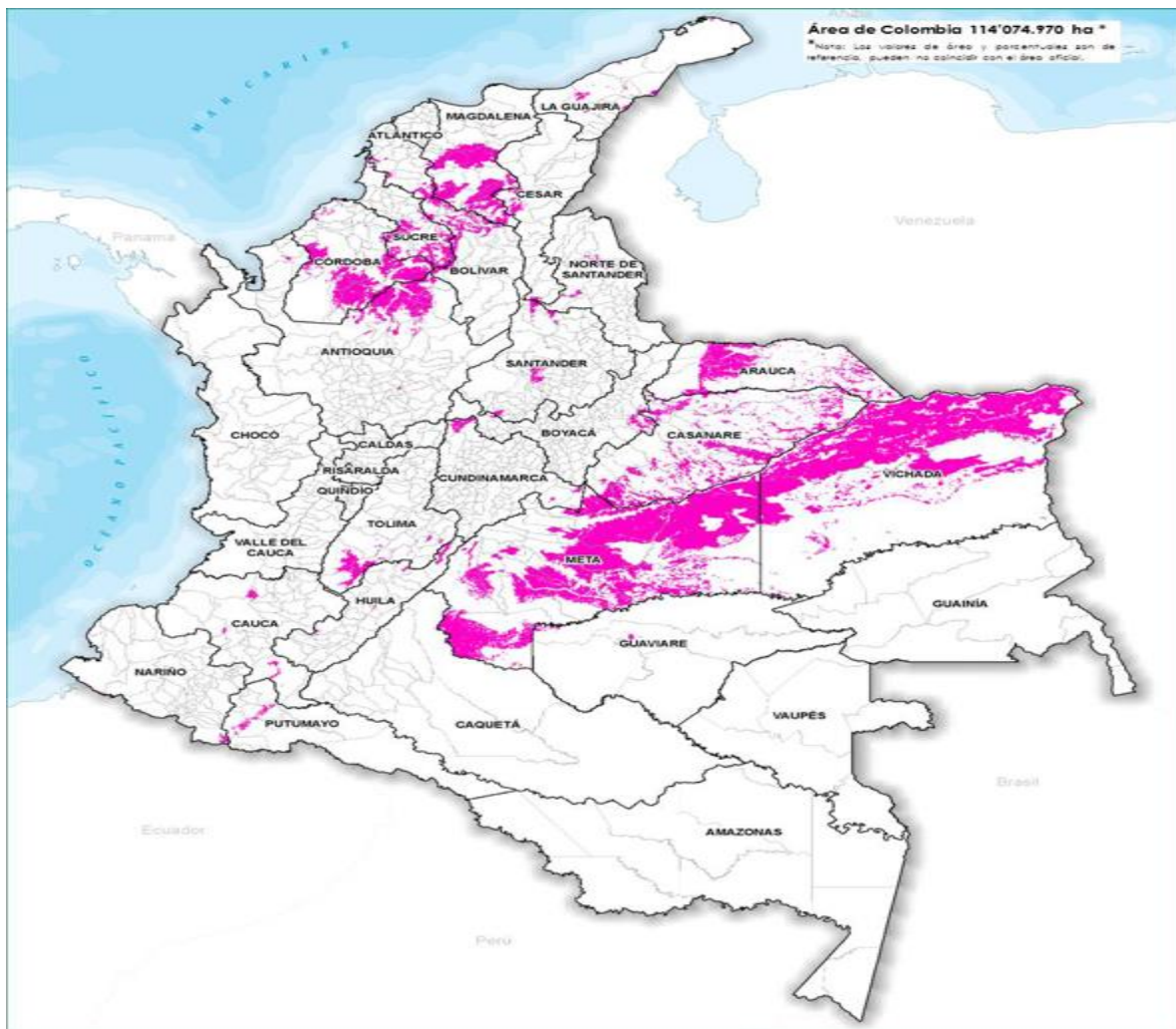
7.3. The ZIDRES Regulation

In the theoretical part of this research, accumulation by dispossession was studied, following the theories developed by David Harvey. Harvey (2010) discusses inequitable land allocation in favour of larger capitalist interests. He asserts the creation of special economic zones, for example in India, have paved the way for large agro industries to enjoy overwhelming privilege. In the process, large scale privatization of public lands has been pervasive.

It is therefore necessary to analyze whether the Colombian Zonas de Interés para el Desarrollo Económico y Social -ZIDRES- Zones of Interest for Economic and Social Rural Development is compatible with the aforementioned characterization of dispossession.

The act 1776 of 2016, known as ZIDRES act, defines the Areas of Interest for Economic and Social Rural Development as territories with an aptitude for agriculture, livestock husbandry, forestry and fish farming; especially as they relate to public utility and social interest. Such territories may provide a new model for economic development, based on sustainable human development, social development, environmental sustainability, territorial administration and formal economy (DNP, 2014, CONPES 3797).

These areas must meet some requirements such as: considerable distance from the main urban cores; agricultural and climatic characteristics that make large investments necessary for their exploitation; low population density; high poverty rates or lack of infrastructure for transportation and for the trading of products (DNP, 2014, CONPES 3797). Taking into consideration these criteria, the Colombian State has identified geographic regions where ZIDRES could effectively operate. Such areas are mainly located in Meta and Vichada departments as shown in the map:



Map. 9. Estimation of potential areas for ZIDRES. Source: Fonseca, Rey y Aguilar, D. (Eds.) (2018).

The zones for entrepreneurial development were first created in act 160 of 1994, as those made up by *Baldíos* managed through specialized companies already experienced in the agricultural sector in terms of implementing sustainable production. In this original regulation, *Baldíos* could be awarded to agricultural companies that fulfilled the requirements; whereas in the case of ZIDRES, lands could be used by companies without owning them.

According to MADR (2014) ZIDRES are necessary because:

1. The mere proprietorship of the land does not enable peasants to carry out productive projects in those regions that have low fertility. Thus, since land productivity is low, peasants have to sell their lands and vacate their properties.
2. 54% of the rewarded *Baldíos* were sold by beneficiaries in Colombia.
3. Large extension of lands, especially in Altillanura have been awarded to various members of a same family, negating the founding principles and negatively impacting the original purposes of agrarian reform.

A representative of the National Agency of Lands who was interviewed during the fieldwork emphasizes that such regulation is necessary since Colombian peasants do not have enough resources for successfully using remote lands. For example, it has been noticed that in regions where Family Agricultural Units are relatively large, occupants cannot justify their use of at least two thirds of these lands. Consequently they do not meet the requirements for land allocation; the only chance they have is to find economic support, which usually comes from private corporations. According to the interviewee, previous examples of association between small producers have failed due to internal problems and individual preferences.

In addition, during the interview the officer stated that ZIDRES regulations do not relate greatly to inequitable concentrations of land ownership given that they do not entail transactions over property rights. Furthermore, disadvantaged agricultural workers face considerable obstacles in meeting the requirements for adjudication; particularly in arranging the extensions or the time of their land occupation. Grant of lands can often progress more expeditiously by proving in the case of agroindustries, continuing cultivation within certain specified periods of time.

In contrast, the representative officer of the Department of Agrarian Affairs of the National General Attorney, stated that ZIDRES regulations certainly could entail viewing inequitable land concentration in terms of use rather than in terms of property. Specifically, large agroindustrial entities do not micro-own the lands. They prefer to use other strategies such as growing late yield crops, in order to maintain their claims on the land.

Furthermore, ZIDRES regulations do not adhere to traditional Colombian methods of land occupation. Large investors have rarely been pioneers in the opening up of the more remote zones. They tend to focus on opening areas closer to established tracts of agricultural activity. Smaller land holders thus gravitate to these areas first where there has already been a pattern of family farming put in place. According to the interviewee, family farming should not be sacrificed to facilitate the initiation of larger scale projects. She contends that with financial help and technical assistance, small land holders can survive and even make profits.

The former executive of FEDEPALMA interviewed for this research, suggested that inequitable concentration of land ownership should be reanalyzed, since it may lead to the reduction of poverty. It does not matter if land is for small or large producers. In fact, zone distribution was clarified in the Act 160 of 1994. This was the direct result of negotiations with the peasant movement. Nevertheless, those agreements were not carried out because of ideological differences.

The interviewee said that large investors tend to make assertive claims on substantial lands. A family farming focus is not considered practical even if such a model should still be supported in places deemed practicable. Even so, ZIDRES regulations make mandatory the incentivization of large scale projects in some areas.

Some argue, having an expertise in how large investors operate, that ZIDRES should actively promote the production of commodities over the cultivation of native crops. Large holders are able to gain an overwhelming advantage over peasants through using by means of a fake association (Grupo Semillas, 2016).

The owners of larger projects would for example control the marketing of seeds, inputs such as fertilizers, thereby controlling the prices of crops and their derived products (Grupo Semillas, 2016). Following the model of El Cerrado in Brazil, the land tenure that ZIDRES supports, is based on assuming control over lands by taking them on a rental basis. Since monocultures involve heavy mechanization, chemical inputs, high technology and a scaled down work force, the exclusion of poorer workers has become increasingly inevitable. This

point of view assumes that family farming is unable to produce enough food for markets. However, studies show that 43% of the crops in Colombia are produced in farms of less than 50 hectares, despite the systemic lack of support from the State (Grupo Semillas, 2016).

Analyzing ZIDRES is challenging, since, in Colombia, it is a new strategy with few statistical outcomes available as yet. Nevertheless, they appear to exemplify current international thinking, which tends to favour large-scale projects as being the more advantageous.

Altillanura has the highest predominance of *Baldíos* in Colombia, so it is no surprise that the Colombian State is planning to implement ZIDRES in this sub-region. In the Borrás interview he proposes that few are interested in grabbing land for the sake of merely owning that land. They are more interested in control of resources such as water and forestry. Because in Altillanura the allocation of land to large corporations is disallowed, there is more equitable distribution. However larger corporations are very interested in using associated resources.

7.4. The development model of Altillanura

Due to special conditions in Altillanura, the Colombian government believes it can attract additional investment through expanding economic activity. This is done through securing property rights, increasing the labor market and augmenting incomes. Such investments depend on improved agricultural systems and need to be channeled through adequate institutional frameworks facilitating strategic projects (DNP, 2014, CONPES 3797).

In order to overcome the natural difficulties in the region, the Colombian State has claimed that it necessary to encourage the participation of small, middle and large producers for creating economies of scales. The project aims to improve connections, access to market information, technical assistance, added values, trading and property rights. This last aspect involves a new *Baldíos* management program, which consists of awarding the lands with the best attributes to landless peasants. This entails allocating the use of those *Baldíos* that have inferior qualities, to large producers or companies, by means of mechanisms other than owning the land, such as renting or concession contracts (DNP, 2014, CONPES 3797).

7.4.1. The origins of the model

During the seventies, Brazil started an agroindustrial model in lands characterized by acid soils with low fertility. The model included improving soils by incorporating technology (mainly fertilization practices and no-tillage systems) according to the standards of agricultural production, enabling it for growing new crops and pastures (Arraes, Geraldo, Santana and Alves, 2012).

The model covers 2 million km² of central Brazil. El Cerrado is characterized by dystrophic soils with low pH and high Aluminum content. For decades populations have practiced subsistence agriculture, growing small crops in the forests' clearings. However, the situation has changed since the Brazilian government started to encourage large scale agriculture by providing different subsidies, generous tax incentives and low interest loans that together led to a massively mechanized agricultural system. Given that soils are extremely acid and have high levels of aluminum, prior application of heavy amounts of lime and fertilizer is necessary. Once these are applied, products such as soy, maize, rice and mandioca have proven to grow with significant improvement (Ratter, Ribeiro and Bridgewater, 1997).

Such intensive agroindustrial projects require large financial resources and suppose some concentration of land control. For example, by 1985, 4% of the farms consisted of more than 1000 hectares and covered more than 60% of the total area, whilst 50% of the farms were no larger than 50 hectares, which barely covered 0.2% of the total area. Additionally, it is noteworthy that land prices are roughly half the price of fertilizers needed for enabling it (Ratter, et al., 1997).

It has been stated that due to El Cerrado implementation, grain production increased from 8 million tons to 48.2 million tons, that is 5.2% of the annual growth rate. Additionally, in the seventies, El Cerrado, which occupies 25 % of Brazil, produced 35.4% of the grains in the country, whereas by 2006 such production increased to 49.2%. El Cerrado has focused on crops such as rice and beans, and more recently on soybeans and sugarcane. This expansion is due to conversion of pastures into agricultural land (Arraes et al., 2012).

Side effects of such project should also be noted. It has been argued that intensive mechanization which is associated with monocultures carried out in El Cerrado concomitantly involve permanent bare soil inducive to erosion. This situation is not ameliorated by the presence of legal forest reserves since these are located in blocks that allow spraying aircraft work in cultivated zones. However such allocation does not permit the presence of animals or recolonization by seed spreading (Ratter et al, 1997).

During the first 25 years of El Cerrado 35 % of natural biome changed from savanna into arable land or pasture. Additional problems include water depletion through irrigation systems and intensive use of pesticides (Ratter et al, 1997).

Given the profitable results obtained by the El Cerrado model in Brazil, based on monocultures and similar soil conditions, the Colombian state has attempted to adapt a similar model in Altillanura, aiming to facilitate conditions for expanding soy cultivations, especially in Puerto Gaitán, Puerto López and Cumaribo municipalities (Piñeros, 2016).

This development model could attract foreign investors interested in international food speculation and is widely explained as being due to the expansion of agrarian capitalism; the latter is based on the assumption that land and food are merchandises. Given the natural obstacles that lead to intensive mechanization, large amounts of capital are needed for enabling the successful use of these poor soils. Nevertheless, permitting the use of lands by agroindustries could widen land distribution inequality (Devia, 2015).

Certainly, the model is new in Colombia, but not in the rest of the world. Previous initiatives in Colombia have attempted to turn small farmers into entrepreneurs, privileging certain commercial crops at the expense of more traditional ones, with the forced incorporation of technology. In the aforementioned model, the technification is even more ambitious, since it involves the expansion of the agrarian frontier by means of exploiting poor soils, assuming the ineffectiveness of local populations or small-scale models.

The concepts elaborated by Arturo Escobar (2012) seem to still be valid, even though some years have passed. The idea of development that is behind the model implemented in the Colombian Altillanura is still the same. It is predicated on the presumed backwardness of local populations; only those capable of incorporating technology and cultivating the approved crops are able to use the lands. If small producers want to survive, they must establish associations with the large-scale investors. Commodification in the terms developed by Marx and Polanyi is still ongoing in a process that instrumentalizes lands for producing biofuels. Therein peasants become either workers or servants.

7.4.2. Problems of the model and alternatives

It has been stated that Altillanura does not enjoy conditions favourable to sustainable agriculture. This is due to the high degradation experienced as a consequence of the heavy mechanization used in monocultures. It is something that exerts pressure on various natural resources and can jeopardize fragile ecosystems. Moreover when small producers have attempted to cultivate without adequate use of soils and germplasms, they have experienced significant economic losses (Rivas et al., 2004).

7.4.2.1 Alternative models

Some other methods have been proposed in order to guarantee sustainable production and use principles of efficiency to generate sufficient income.

7.4.2.1.1 Rotating crops

Mixing rotating crops in meadows by means of arable layers could facilitate a progressive improvement of soil for raising its productivity. For example, to cultivate grasses and legumes, both for harvesting and for selling after one year and thereafter replacing them using corn and soy (Rivas et al., 2004).

Another example involves mixing grasses, legumes and rice; in this case the former two running expenditures are covered by the profits obtained from rice, which is ready for markets after six months. Following this process cultivations are rotated (Rivas et al., 2004).

A final strategy could include starting with corn and soy crops, rotated every semester over three years, in order to obtain profits every six months. At the end of the three years, in order to avoid degradation, a mixture of grasses and corn could be used, harvesting and selling the latter every six months for ensuring incomes (Rivas et al., 2004).

These examples are suitable for small producers, especially those who lack machinery and have little or no chance of accessing credits and positively contribute to raise incomes and risk reduction, by diversifying crops. Additionally, in national terms such a strategy could lead to an increase in the offer of food and to a reduction in deforestation rates (Rivas et al., 2004).

7.4.2.1.2 Family farming studies

Family farming is another interesting option. It could be defined as the land utilization that typically involves family-work, managed by a household head and carried out in small parcels. According to FAO, it is a manner of organizing agriculture and associated activities that are managed and operated by one family. Both farm and family depend on each other, addressing economic, environmental and cultural factors (Salcedo and Guzmán, 2014).

Non-monetary elements are essential in family agriculture: family work is obviously not always paid only in terms of salaries. Sometimes part of the produce is allocated for family consumption. On occasions transactions do not proceed in terms of cash, as donations and bartering can also take place. (Forero, Barberi, Ramírez, Suárez and Gómez, 2013).

Comparable models produce 70% of food around the world and 40 % of households on the planet depend upon it. In addition, it contributes positively to land-ownership deconcentration by the equitable distribution of lands; since is carried out in small parcels (Acevedo-Orsorio and Martínez-Collazos, 2016).

Additionally, small scale or family farming has an interesting effect on the rest of the economy. For instance, in Brazil, 63% of tractors are used in farms no larger than 200 hectares. This fact contradicts the common assumption that only large-scale production encourages greater use of technology. Moreover in Brazil, 56% of the agricultural output is produced in small farms. These small farms produce 60% of all milk and meat, even though they receive much less in state subsidies than do large scale agricultural operations. By 2004 the former were benefited to the tune of 3 billion reais whilst the latter obtained 24 billion from Banco do Brasil (Kröger, 2011).

In one research project, led by Forero (2013), for the purpose of evaluating the profitability of family agriculture in Colombia, some interesting results were obtained. The study tested the profitability of several crops (plantains, corn, rice, coffee, potato and palm) in 12 municipalities distributed throughout the country, distinguishing clearly between the producers. Larger producers focused on division of labor, asset valuation and profitability. Medium sized producers tended to blend these elements of large scale production with the characteristics of family production, but with more emphasis on monetization than is typical of family agriculturalists.

The Forero (2013) study found that there are not statistically significant differences among producers or, in other words, production scale does not significantly correlate with efficiency. Actually the study found that, on average, the technical profitability (excluding direct costs), measuring associated costs and incomes, was 51% profitability for large producers, 51% for medium producers and 56% for family farmers. On the other hand, net profitability (taking into account direct costs) had similar outputs: 48% for large producers, 48% for medium producers and 52% for family farmers (Forero et al., 2013).

Some differences were found when studying specific crops. For example, small scale farmers performed more efficiently than the others in the case of rice, plantains and potatoes in some municipalities (Cabuyaro, Fuente de Oro and Chococontá, respectively). However larger operators performed better at cultivating coffee and plantains in Belén de Umbría and Quimbaya, respectively. The researchers concluded that smaller producers performed better

in those zones that have prior technological advantages and where small-scale production has been dominant. This is because according to data, except in the case of oil palm, they lead in production (Forero et al., 2013).

Forero also led an investigation specific to the Altillanura region, whereby 10 families received farms from the state and cultivated them following basic principles of family farming; that is with low levels of investment, adequate knowledge exchange and the sharing of genetic material with neighbors. These families had to maximize the resource they had, by for example, using natural shadows and leaf litters; also by improving the condition of soils through using microorganisms derived from composting material and gallery forest (Forero, Yunda, De Vargas, Rodríguez and León, 2015).

The families managed to produce timber and fruits for both consumption and trading. Additionally, they developed skills for adding value. These included grinding, toasting and drying in order to produce dehydrated chili, dry and ground moringa, dry sesame and sachachi oil. Thus, they were able to keep stocks for their own consumption and for negotiating better prices in markets. The lands these families manage are cultivated with many different species; such as avocado, arazá, cherimoya, chontaduro, copoazú, guava, lemon, mango, watermelon, tomato, yam, sweet potato, oats, corn and beans. In order to secure their incomes, the families reserved space for cultivating pineapple, chili, sesame, watermelon and Sacha-Inchi; this is due to the fact that they are short term crops and consequently can be sold more expeditiously (Forero et al., 2015).

In order to succeed, these families saved costs by using their own labor and exchanging vegetable material among neighbors; but also through innovation, such as by producing their own fertilizers, pesticides and food for animals; and by using natural resources available in their farms. Other activities included adding value to primary products by transforming them into yogurt, cheese, honey and Jamaica flower wine. This system secured their food sovereignty, given that in most cases they obtained 100% of their food from the farm, and even sold from 60% to 90% of their produce. These families reached incomes from \$14,377.020 to \$32,343.040 (USD\$ 4900 to USD\$11,000) and made profits that ranged from

24.6% to 284.6%. Such profits were especially notable in those farms with more crop diversity, more family labor and more innovation (Forero et al., 2015).

The findings of Forero contradict the conventional assumptions of development discourse, according to which it is only the more heavily technified forms of production that lead to profitability. Clearly family farming can still be competitive if carried out properly in favourable conditions. This alternative conception of development requires further investigation. In addition, it is more in line with the worldviews of local populations; with traditional knowledge techniques and social articulation. This can be described as a *decommodification*.

7.5. Land tenure in Altillanura

Land relations in this region are characterized by the presence of informality that is due to the absence of entitlement-based programs for indigenous peoples, small land-holders or large land-holders. This absence constitutes one of the major obstacles for international investment and have tended to lead to counterproductive outcomes and strategies as follows:

- The purchase of land bereft of titles with a view to later possessing or renting the land
- Buying land but postponing the use of it until obtaining secure legal rights to it (Salinas 2012)
- The illicit contravention of agrarian regulations in order to accumulate former *Baldíos*.

The last dot point will be addressed in the following chapter.

In this chapter the particular context of the Altillanura area was further analyzed. The sub-region is relevant since it has more than 17% of the *Baldíos* in the country and most of the elements of ZIDRES have been identified there by the Colombian State. These include conditions such as poor soils, lack of infrastructure and the remote location. The Altillanura sub-region has been exploited following the model of El Cerrado, in Brazil, which functions in similar geographical conditions. However, that model could lead to serious environmental

risks due to heavy technical mechanization that typically causes water depletion and desertification. However alternative methods may still be successful and profitable.

8. ACCUMULATION OF *BALDÍOS* IN THE COLOMBIAN ALTILLANURA

The process of accumulation by dispossession as elaborated by Harvey, entails a sophistication superior to the characteristic violence of primitive accumulation described by Marx. Privatization of social goods is one of the mechanisms often used for appropriation, Harvey (2003) says. As repeatedly argued in this thesis, *Baldíos* are public lands whose privatization is only permissible for poor peasants, and then only through state sanctioned entitlement programs. Privatizing these lands is completely prohibited for others. However some strategies for owning them on the part of non-peasants have indeed been discovered. They are studied in this chapter.

As mentioned in previous chapters, the Colombian legislation forbids accumulation of former *Baldíos*. In 2014 the Contraloría General de la República ([CGR], Comptroller Office) identified an irregular accumulation of *Baldíos* in Altillanura, undertaken by both natural and juridical persons, who directly or by means of purpose-specific created companies, bought and accumulated such lands. Among others, the cases of Monica, Cargill, Sarmiento Angulo, Helm Trust, The Forest Company Wood-Timberland Holding, Manuelita, Poligrow and relatives of two former ministers of Agriculture were investigated (CGR, 2014). A former member of the UPRA who was interviewed for this research stated that this serious problem became apparent only after the CGR issued the report; highlighting how accumulation occurred using a corporate veil for hiding irregular activities.

8.1 Incentive for rural capitalization (ICR)

ICR is an economic benefit intended to small or middle producers who invest in the agricultural sector in order to foster modernization, competitiveness and sustainability of agricultural production. They obtain a credit, which is partially paid by the state. The managers of these projects must prove they are feasible, that they have a definite duration and that they boost capital formation or reconvert technologies in specific areas (Decree 1071 of 2015). As outcomes, the projects should prove:

- They increase productivity or decrease production costs.

- They improve the negotiation capacity of farmers or enable them to reduce physical losses or costs.
- They foster production of supplies and services that involve significant advances in agricultural production.
- They foster transformation of agricultural goods in a manner that enable producers to increase added values.

Those projects that are beneficiaries of other subsidies or incentives will not be recipients of the Incentive to Rural Capitalization (Decree 1071 of 2015). This is the situation in the case of Monica, Cargill and Riopaila Castilla S.A, as will be further explored below.

8.2. Accumulation strategies

The CGR found that some investors created various limited societies by means of which they bought former *Baldíos* and applied for the ICR.

8.2.1. Monica Semillas

MONICA Semillas is a business group formed by investors from Brazil who work in the oilseeds and cereals sector in South America. It was founded in Colombia in June 8, 2008, whereupon six additional societies were formed (MONICOL, TILAVA, AGROMARCHETT, MANACACIAS, CATANARIBO and AGROCAXIAS), all of them having the majoritarian participation of MONICA (up to 80%) and with a shared objective: the production and commercialization of agricultural products. Either through the created societies or the actionists, MONICA acquired 12.238,03 hectares of former *Baldíos*; without exceeding in each transaction the maximum Family Agricultural Unit under which the agro-industrial project operated (CGR, 2014).

These operations were well planned as was proven by the CGR, since representatives of MONICA admitted that they had to constitute 6 different societies for buying the lands, without breaking the prohibitions of Act 160 of 1994 on the limits of former *Baldíos* acquisitions (CGR, 2014).

In addition, MONICA benefited from August, 2009 until February, 2010 through the ICR in four cases for the same enterprise; not for different projects as required by law. In total MONICA received 1.432.700.000 Colombian pesos [COP] (USD 451.444.58). Even representatives of MONICA acknowledged in a communication to the former president Álvaro Uribe Vélez, the problems in accessing global credits for covering a particular whole project. This is because the ICR is awarded to individual projects based on farms that do not exceed the limits of the Family Agricultural Unit (CGR, 2014)

The CGR inferred that MONICA's representatives confessed to their responsibility in creating different societies to avoid breaking the law while still accessing public resources. In conclusion, the CGR MONICA broke the law with such maneuvers pursued in order to concentrate ownership of former *Baldíos* and to access different subsidies (CGR, 2014). The case of MONICA might be used as an example of a well-defined pattern of *Baldíos* accumulation or land dispossession in the Colombian Altillanura.

8.2.2. Cargill

Similar strategies were used by CARGILL, a company based in the United States, dedicated to trading grains and other agricultural merchandises. It was first established in Colombia on March 30, 2004. Thereafter CARGILL created 36 smaller shell companies, that acquired 39 former *Baldíos* in Santa Rosalía, Cumaribo and La primavera municipalities and in Vichada department. It thereby accumulated 52.575,51 hectares (OXFAM, 2013), without exceeding the Family Agricultural Unit. Once the properties were owned, CARGILL was recipient of the ICR in ten operations by means of the shell company Colombia Agro, receiving in total COP 23.217.800.000 (USD 7.315.941.88) (CGR, 2014).

8.2.3. Riopaila

A similar strategy was used by Riopaila, a Colombian agro-industrial company specializing in trading sugar and alcohol. In 2010, Riopaila established 27 shell companies that bought 31.000 hectares of former *Baldíos*, distributed among 43 farms in the La Primavera and Santa Rosalía municipalities, in Vichada department (CGR, 2014). Curiously, MADR (2016b) does

not report sugarcane in Vichada. This could be due to either a mistake or an unknown use of the land by Riopaila.

8.2.4. Luis Carlos Sarmiento Angulo group – Corficolombiana

The Luis Carlos Sarmiento Angulo group – Corficolombiana, led by the banker Luis Carlos Sarmiento Angulo, whose activities include finances, infrastructure, oil exploitation, construction and agro-industry, acquired former *Baldíos* in the Puerto López and Puerto Gaitán municipalities of the Meta department. Six companies of the group acquired 13.785 hectares of former *Baldíos*, distributed among 17 farms. This business group applied to the Incentive to Rural Capitalization body, with 4 projects for which it received COP 375.826.011 (118.422.99) (CGR, 2014).

8.2.5. Other relevant cases

Timberland Holdings Limited and Woody Holding Limited, a company based in Tórtola, in the British Virgin Islands, created 12 branch offices in Colombia during 2011 and 2012. This company acquired 12 former *Baldíos*, which together make up more than 13.254 hectares. Similar strategies were performed by Sociedad Agroindustria Guarrojo, Carlos Aguel Kafruni & CIA, Aceites Manuelita, and Poligrow Colombia (CGR, 2014).

The abovementioned cases meet two interesting characteristics:

1. Complex legal strategies were used to break the law in acquiring former public lands.
2. Public funds were sometimes used by those in charge of some agroindustries. Some companies involved in the sugarcane sector, such as Riopaila and Manuelita have encompassed certain Baldios (CGR, 2014).

Force was not used it seems, in the acquisition of these lands. Rather it appears that they were accumulated through following questionable legal advice. Nonetheless these practices have contributed to uneven concentrations in land ownership in areas intended for agrarian reform.

8.3. Forced displacement and dispossession in Altillanura

The Orinoquía region has been characterized, during the last 50 years, by the presence of illegal armed forces such as FARC, paramilitary groups such as Autodefensas Campesinas del Casanare and Bloque Centauros of Autodefensas Unidas de Colombia, drug cartels and other gangs. Until 2014 Meta was the department with most of lands requested for restitution (668.000 hectares). Puerto Gaitán and Mapiripán were municipalities that had more areas requested for restitution: 146.842 and 206.657 hectares respectively (Rodríguez González, 2014). Both are located in the Colombian Altiplanura.

A former director of the legal department of the UAEGRTD, interviewed during fieldwork for this thesis, explained the dynamics of conflict in this region. He noted that it is inextricably linked with tradition, wealth distribution, corruption and exploitation of natural resources. According to him, powerful stakeholders have used their influence to obtain titles for *Baldíos* from INCORA or INCODER, at the expense of the target populations for whom such lands are intended.

The Carranza family provides a good example. This family group, involved in the emerald trade, is one to whom a former *Baldío* of 34.000 hectares, and named *El Porvenir*, (located in Puerto Gaitán, Meta), an allocation was made in 1992.

This situation led to a conflict with local peasants who were menaced after invading and using the farm. Moreover, given the large presence of oil and petroleum companies in the region, the state has rapidly militarized the zones according to the needs of business interests. This exacerbates confrontations between illegal armed factions and often results in forced displacement. This situation interestingly contrasts with the systematic absence of the state in other places of the country.

8.3.1. El Brasil

One interesting case is the so-called El Brasil, a large former *Baldío* that has an extension of 16.000 hectares, located in Puerto Gaitán, Meta. In 1995, the State awarded the last of 16 farms to peasants. Nevertheless, the same year, a local paramilitary group known as Los

Carranceros dispossessed the formed *Baldío* by force, using it for their operations for 10 years (Rodríguez González, 2014). After the demobilization of Los Carranceros, in 2005, the former beneficiaries sold their properties to relatives and friends of Victor Carranza, an emerald trafficker who financially supported illegal activities. Some of the properties were sold to a company named Agualinda, legally represented by Carranza's wife. In 2007, the company swallowed up 16 farms and sold them to ten different companies (CGR, 2014).

8.3.2. The case of Poligrow

Macondo is another interesting case. It consists of 5.500 hectares of a former *Baldío* located in Mapiripán, awarded in the eighties to two persons representing cattle ranches, and called *Macondo* 1, 2 and 3.

During the nineties, Mapiripán was controlled by FARC, because of its strategic location for coca cultivation and trafficking. In 1997, paramilitary groups attacked Mapiripán aiming to control the coca production. During the following years 1.300 people were displaced due to armed confrontation. This resulted in the abandonment of *Macondo*. Displacement was so dramatic that the municipal committee for displaced people ordered the protection of all the lands under its jurisdiction, prohibiting any transaction that did not have committee approval. Finally, *Macondo* was acquired by Poligrow in 2009, with the permission of the committee (Rodríguez González, 2014). With this operation the company exceeded the Family Agricultural Unit limit, that is 1800 hectares in Mapiripán.

Poligrow is a business group formed by Poligrow Colombia, Poligrow Agroindustrial, Fundación Poligrow and Electrificadora de Mapiripán S.A. The main collective objectives of Poligrow are oil palm and oil-seeds production. According to Poligrow, all the acquired lands were former *Baldíos* awarded to landless small producers and the operations followed the Colombian regulations for buying such lands (Salinas, Álvarez, Van Dorp, Rácz, and Kuijpers, 2015).

Poligrow performs its activities on another 5 farms: *El Porvenir*, *La Cuadra*, *Las Toninas*, *Barandeles* and *Barandales*; using up to 9.839,49 hectares (Salinas et al., 2015). According

to the CGR, Poligrow signed a contract with MADR for implementing a reforestation project in the farm *Macondo 1* and is a beneficiary of a tax exemption for cultivating oil palm in the three *Macondo* farms (CGR, 2014).

As described by Gómez, et al. (2015) and Thomson (2011), both El Brasil and Poligrow are good examples of primitive accumulation formerly performed by illegal armed groups who opened the doors to accumulation by dispossession. Using complex and questionable legal methods, these companies took advantage of a context featured in agroindustrial promotion. It is interesting to note how the Altillanura meets the definitions of both primitive accumulation and accumulation by dispossession in the same appropriation process. This can only be possible in a context where violence and forced displacement are present (Marín-Burgos and Clancy, 2017).

Baldíos are a valuable resource wherein agroindustries and cash crops such as oil palm are strongly promoted. This validates the quantitative analysis presented in this thesis, according to which there is an association between *Baldíos* and oil palm.

8.4. Social influence and accumulation

The CGR (2014) also found that large agro-industries are not the only actors involved in the issue of *Baldíos* accumulation in Colombia. People with influence and special connections are also appropriating them.

According to the CGR (2014), cousins of a former Minister of Agriculture were benefited with *Baldíos* allocations in 1996. The state granted to them farms named *Santana* (1.267 hectares), *El Gavilán* (1.265 hectares) and *El Cachicamo* (1.283 hectares), omitting important requirements in the adjudication process. These requirements included the need to use the land. Flagrant non-compliance with this regulation was apparent in the evident disconnection between who was actually working the land and the beneficiaries of its use. It is important to highlight that they neither lived nor worked in Altillanura. (CGR, 2014). These situations involve obvious omissions and non-compliance with agrarian laws, since *Baldíos* were intended for poor peasants to work these lands.

In 2012 the three former *baldíos* were sold, with an identical participation (25%) to 4 different companies, namely: Agro Elbita, Cabriolet, Mercantil Galerazamba and Proyectos Vichada. According to the CGR (2014), legal representatives of Elbita are relatives of a former Minister.

Another interesting case that involves a former Ministry of Agriculture is one known as *La Veremos*, relating to a 1205 hectares farm in Puerto Carreño, Vichada. This former *Baldío* was awarded in June the 20th, 2012 to a peasant, who sold it in January 13, 2013 to Agroindustriales El Palmar, a company whose general manager was a former Minister of Agriculture. It is important to underline that selling a former *Baldío* requires the authorization of the state, since that should theoretically prevent the acquisition of these lands by those who are not the intended beneficiaries of agrarian reform. In this case the state had authorized the transaction on October 25th in 2012. This means that the land had been owned by the beneficiary for only 4 months (CGR, 2014) in contravention of agrarian reform laws.

Previous examples also exhibit a clear pattern. Land laws could be broken by those who had the power and the connections; in other words, those who possessed sufficient social capital, as defined by Bourdieu (1986). It is noteworthy that those in charge of rural matters in Colombia are taking advantage of their positions in order to appropriate lands that are intended to be worked by poor peasants. Having strong social capital may well lead to the aggrandizement of the patrimony, frequently through illegal methods.

In this chapter, the strategies used for appropriating former public lands have been analyzed. Legal strategies that fit into the concept accumulation by dispossession were described. Secondly, the interesting articulation between primitive accumulation and accumulation by dispossession was studied, using two examples in which lands were first forcibly taken and after appropriated breaking the rules on adjudication of *Baldíos*. Finally, social capital as a means of promoting accumulation was also cited, to indicate how pivotal social position is in facilitating the contravention of agrarian judicial rules.

9. CONCLUSIONS

Today's unequal concentrations of land control in Colombia can be explained by the expansion of capitalism into remote zones of the so-called global south. The global south presents a significant potential for large scale production, but this comes at the expense of local considerations and more traditional methods.

Crops such as sugarcane and oil palm have been taking the place of others because they can be used in many ways in both food and fuel production. This conforms to an international pattern whereby such crops are heavily incentivized by the relevant states (Borras et al, 2012). In the case of Colombia, there is a substantial tax reduction and rules specifying the use of certain percentages of biofuels in new vehicles. In addition, incentives to expand the cultivation of certain crops appear to be inherent in the creation of ZIDRES.

There is a close correspondence in places such as Valle del Cauca, between the high GINI index of the area and the extent of nearby sugarcane cultivation. In a similar vein, Puerto López, the third largest source of sugarcane, has the highest GINI index in Atlántida. Nevertheless, the expansion of oil palm shows a different pattern, because it has been rapidly expanding in zones where *Baldíos* already have large extensions. In many cases there is expansion into public lands where cultivators enjoy few rights. This may be why many contemporary theories do not necessarily include property ownership itself as an essential element of land concentration. Control of natural resources is seen to be the more salient factor in this phenomenon.

Concentration of land control functions with the more conventional perspectives on the nature of development (Escobar, 2012). For these perspectives agricultural methods are rustic and inefficient and therefore inferior to modernized approaches. Global expectations in the area of crop selection – for example sugarcane and oil palm – have imposed new structures on traditional populations who are now being increasingly displaced. The imposition of modern technologies has created a perception that traditional agricultural methods as inconvenient, conducive to incompetence and unprofitable. Previously, in 1944 Polanyi

elaborated concepts about nature and work and how land and labor could be seen as types of commodities. This commodification aligns with land concentration in Colombia.

The rapid expansion of agroindustrial projects in Altillanura seriously threatens traditional agriculture. These new forms of production incorporate various uses of sugarcane and oil palm after industrial processing, with backing from the Colombian state. High demand for spin-off byproducts throughout the world is an important factor in analyzing this dramatic expansion of agroindustrial economies. Indeed agroindustries have the potential to exclude traditional farmers from the Altillanura and thereby change their status to that of mere salaried workers.

Inequitable concentration of land control in Colombia is an age-old phenomenon that commenced even before the beginnings of the republic. It is almost state policy to benefit the wealthiest and most privileged sectors at the expense of the poorest agricultural workers some of whom are landless and many of whom originate from culturally diverse ethnicities.

Despite that, *Baldíos* have been an important means of land redistribution and agrarian reform, partly because a requirement for receiving an allocation is that the applicant owns no other rural land. Other means of redistribution include the expropriation of rights over idle lands through the Family Agricultural Unit, which limits the size of awardable lands. However, the agrarian reform still has poor results, since processes of *Baldíos* adjudication have often not complied with established agrarian regulations, particularly those rules relating to minimum and maximum extensions.

Attempts at agrarian reform have been largely ineffective in Colombia, as a result of the aforementioned factors and as indicated by the very low rates of land recovery for redistribution. Political inaction is frequently blamed for this comprehensive failure.

The unequal concentration of land control in Colombia, is connected with the recurrent violence that the country has faced, combined with the pressure resulting from the use of certain agro-industrial models. The preference for cash crops that dominates thinking around

the world has insidious effects when applied to the Colombian situation on the ground; a situation characterized by endemic armed conflict (Salinas, 2012). This violent scenario has led to violent dispossession of lands by illegal armed groups, who have displaced more than 7.000.000 people typically forcing them into urban areas.

The quantitative analysis performed found some associations:

1. Sugarcane is grown in zones that have higher GINI indexes. The cases of Valle del Cauca department and Puerto López exemplify this statement. On the other hand, this crop is not likely to be grown in zones wherein *baldíos* are dominant.
2. Oil palm is grown in regions that have higher presence of *baldíos*, for example in the Meta department. The statistical analysis proved that those municipalities that grow oil palm have higher levels of *baldíos*.
3. Those municipalities that grow oil palm have higher levels of forced displacement, according to the statistical analysis.

These statements suggest that oil palm succeeds in remote zones that have recent occupation dynamics, whereas sugarcane succeeds where colonization is significantly long-standing and private property ownership is legally consolidated.

The spatial analysis confirmed that Meta Department almost always meets high levels in all the relevant variables. Its forced displacement is moderate: 229.822 persons, but there are high figures in Mapiripán, where processes of primitive accumulation and accumulation by dispossession have been cited. Its GINI index is very high: 0.8716. The Baldíos area is expansive: 2.096.452 hectares. There is a large area of sugarcane: 17.408 hectares (relative to the proportion of crop); and its oil palm area is also high: 221.090 hectares, the largest in the country.

The spatial analysis also shows that two municipalities in the Altillanura concentrate large extensions of agroindustrial commodities. Puerto Gaitán has the fourth largest extension of oil palm cultivations (33.000 hectares) and Puerto López ranks third in terms of sugarcane cultivation (17.408 hectares).

The Altillanura sub-region has the greatest prevalence of *Baldíos* in Colombia. 4.914.784 hectares of *Baldíos* are located there, out of 27.541.378 hectares (which amounts to 17.845 % nation-wide). Given these figures, there is a lower GINI index in comparison to the national mean (*Baldíos* are public lands). Although, the same index is higher in Puerto López, where the area of *Baldíos* is the lowest. By 2016 the region had 48.569 hectares cultivated with oil palm and 17.408 hectares with sugarcane. The three municipalities of Altillanura located in Meta department have either oil palm or sugarcane cultivations. These patterns indicate that cash crops can become more extensive either through ownership or without it.

The Colombian state has promoted large-scale expansion in zones characterized by low fertility such as Altillanura, thus positioning this as the only option for developing these zones because of their natural obstacles. The most illustrative example is the creation of ZIDRES, special zones that admit the use of *Baldíos* by large corporations. This model is not unique in the world; it has been described in other places such as India, where it is referred to by Harvey (2010), as an accumulation by dispossession. This is defined as such because it could entail the privatization of public goods. Interestingly, those who support ZIDRES argue that no inequitable concentration will occur since no land allocation for large investors is permitted. Nevertheless, those will use the lands. As Borras said in the interview, no property is really needed when usage is guaranteed. In the future the pressing issues around concentrations of land control will relate more to access to natural resources than to mere legal ownership.

Given the side effects of large-scale agroindustries, including water depletion, soil degradation and deforestation, alternative options such as rotating crops (Rivas et al., 2004) and family farming must be taken into consideration. Small landholders might still be viable in zones such as Altillanura if they maximize the use of their resources in an environmentally

friendly manner (Forero et al., 2015). Such conclusions are eminently credible, since they controvert the pervasive and invalid assumptions of development discourse, according to which, local traditional farming is unable to compete.

The findings show that associative small models may still challenge larger-scale projects that tend to be based on commodities. This change in approach can be described as “decommodification” and is antithetical to the employment of salaried workers on large extensions of land for cultivating corporate cash crops in ways that are alien to the customary mores of agriculture native to the local area. Human activity and nature itself, could still be made somewhat immune to predatory marketization.

Long-term armed conflict in Colombia has created a situation ripe for the brutal dispossession of poorer agricultural workers and for the widespread disregard of human rights; rights that are routinely violated. In 1887 Marx described a comparable early pre-capitalistic phase that is conducive to land theft. Recently occupied remote areas of Colombia are particularly vulnerable to such predations.

Large investors are prone to take advantage of such tragedies by purchasing the dispossessed lands at low prices and thereby making large profits. This has already occurred in Mapiripán, Meta, which is the municipality with the highest levels of forced displacement in Atlánura.

According to Harvey (2003), the concept of primitive accumulation does not fully explain contemporary accumulation, since dynamics other than violence could be present. Thus the concept of accumulation by dispossession must be factored in when considering this issue. In the case of Colombia, the CGR (2014) has shown that large investors have used other mechanisms for grabbing lands. The CGR found that agroindustrial actors have been encompassing former *Baldíos*; a practice that is completely prohibited. It is perpetrated by using complex extra-legal mechanisms, such as the creation of various fictional juridical identities to purchase former *Baldíos*.

Sometimes miscreants undertake a variety of fictional agroindustrial projects. Many illicit strategies entail privatization of social goods as described by Harvey (2003). The actors behind such strategies have long-term connections with biofuels, and some of them are widely known in Colombia.

An additional logic could still be added. Social influence and status are still valuable assets for accessing lands in Colombia. Social capital as cited by Bourdieu (1986), has from the beginning been an indisputable though questionable vehicle for land transactions in Colombia. Occupying privileged positions in the public sector might lead to the successful appropriation of *Baldíos* frequently through illegal mechanisms. As previously alluded to in this analysis, relatives of former ministries of agriculture have acquired lands intended for poor peasants. By using their social capital in such a self-serving manner, people indulging in such expedient and corrupt measures are clearly breaking the law.

9.1. Corollary

This research has unearthed some interactions to do with the milieu of land concentration in Colombia, and the associated issues of forced displacement, cash crop cultivation and *Baldíos* transactions. Examining the case of Altillanura reveals that primitive accumulation and accumulation by dispossession are valid concepts.

Both forms of accumulation can occur together or separately depending on the particular circumstances. Both forms of accumulation can be perpetrated jointly, by taking dispossessed lands and subsequently encompassing them. It can also be done separately by simply breaking the agrarian regulations or by going through ZIDRES.

This research also concluded that ownership is not a definitive concept in issues related to concentrations of land control. Sugarcane cultivators, for instance, have appropriated large extensions of land in Altillanura. On the other hand, the cultivation of oil palm, it must be noted, has also rapidly expanded in zones with large expanses of *Baldíos*. Both crops however, have an important role in influencing control over the territory and its resources. A shift in measuring land control needs to occur in favour of evaluating the extent of the use of

natural resources. This has become more relevant and important than the identity of those who merely hold property titles.

There are many arguments for challenging the commodification of the world; a commodification assumed in the widespread conventional discourse around the subject of development. Conventional widely-held notions of development emphasize profitability and efficiency as the main rationale for expanding agroindustries. Alternative models used in smaller extensions of land may be just as competitive in appropriately favourable conditions. This could well be achieved by using their own family labor, exchanging vegetable materials and by taking advantage of local knowledge. It is still possible to decommodify the agricultural world.

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